

ISSN 0816-2999

THE 1986 WESTERN AUSTRALIAN BIRTH COHORT

PERINATAL AND INFANT MORTALITY IDENTIFIED BY MATERNAL RACE

VIVIEN GEE, R.N., R.M., B.App.Sc. (Nursing, Curtin)
Epidemiology and Research Branch

July 1989

 *Western Australia*
Health Department of Western Australia

**Statistical Series/17
Health Department of
Western Australia
Perth**

THE 1986 WESTERN AUSTRALIAN BIRTH COHORT

PERINATAL AND INFANT MORTALITY
IDENTIFIED BY MATERNAL RACE

VIVIEN GEE, RN, RM, BAppSc(Nursing,Curtin)
Epidemiology and Research Branch

July 1989

Statistical Series/17
Health Department of
Western Australia
Perth

TABLE OF CONTENTS

	<u>PAGE</u>
SUMMARY	iii
ACKNOWLEDGEMENTS	v
TABLES	vi
FIGURES	ix
1. INTRODUCTION	1
2. DEFINITIONS	2
3. DATA COLLECTION	4
4. BIRTHS IN WESTERN AUSTRALIA IN 1986	5
4.1 Birth Incidence	5
4.2 Place of Birth	5
4.3 Maternal Place of Residence	5
4.4 Crude Birth Rate	5
4.5 Condition of Births	9
4.6 Maternal Age and Births	9
5. STILLBIRTHS, NEONATAL AND POST-NEONATAL MORTALITY IN WESTERN AUSTRALIA IN THE 1986 BIRTH COHORT	10
5.1 Stillbirths	10
5.1.1 Maternal Race and Maternal Age	10
5.1.2 Maternal Race and Parity	13
5.1.3 Maternal Race, Condition and Plurality	14
5.1.4 Maternal Race and Birthweight	14
5.1.5 Causes of Stillbirths	16
5.2 Neonatal Deaths	17
5.2.1 Maternal Race and Maternal Age	18
5.2.2 Maternal Race and Parity	18
5.2.3 Maternal Race and Plurality	19
5.2.4 Maternal Race and Birthweight	21
5.2.5 Maternal Race and Age at Neonatal Death	21
5.2.6 Causes of Neonatal Deaths	22
5.3 Post Neonatal Deaths	24
5.3.1 Maternal Race and Maternal Age	26
5.3.2 Maternal Race and Conjugal State	26
5.3.3 Maternal Race and Parity	27
5.3.4 Maternal Race and Plurality	28
5.3.5 Maternal Race and Birthweight	28
5.3.6 Causes of Post Neonatal Death	29
5.3.7 Seasonal Incidence of Post Neonatal Deaths	30

TABLE OF CONTENTS Continued

	<u>PAGE</u>
6. PERINATAL MORTALITY IN WESTERN AUSTRALIA IN THE 1986 BIRTH COHORT	32
6.1 Perinatal Mortality	32
6.2 Maternal Race and Maternal Age	33
6.3 Maternal Race and Parity	34
6.4 Maternal Race and Birthweight	34
6.5 Maternal Race and Babies Sex	35
6.6 Maternal Race and Conjugal State	36
7. INFANT MORTALITY IN WESTERN AUSTRALIA IN THE 1986 BIRTH COHORT	37
7.1 Infant Deaths	37
7.2 Maternal Race and Maternal Age	37
7.3 Maternal Race and Conjugal State	38
7.4 Maternal Race and Parity	38
7.5 Maternal Race and Plurality	39
7.6 Maternal Race and Babies Sex	40
7.7 Maternal Race and Birthweight	40
7.8 Maternal Race and Age at Infant Death	41
7.9 Causes of Infant Deaths	42
8. BIRTH TRENDS, PERINATAL AND INFANT MORTALITY IN WESTERN AUSTRALIA IN 1980-1986	45
8.1 Crude Birth Rates and Total Births, 1980-1986	45
8.2.1. Stillbirths, Neonatal and Perinatal Mortality	45
8.2.2. Neonatal Mortality	48
8.2.3. Perinatal Mortality	48
8.3 Neonatal, Post-neonatal and Infant Mortality, 1980-1986	48
REFERENCES	55
APPENDICES	56
A. Notification of Case Attended Form 2	56
B. Medical Certificate of Cause of Perinatal Death	57
C. Medical Certificate of Cause of Death	58

SUMMARY

The Midwives' Notification System of Western Australia indentified 23839 births of ≥ 500 grams birthweight, to 23561 women during 1986. Of these babies, 146 were stillborn, and a further 200 babies died within the first twelve months.

The overall stillborn proportion was 6.1/1000 total births. Among babies born to Caucasian women the proportion was 5.8/1000, for babies of Aboriginal women 12.8/1000 and for babies of women of other races the proportion was 5.3/1000 total births. The stillbirth proportion of 5.8/1000 among singleton births is less than a third that (20.0/1000) for multiple births.

Of babies born to teenage women 12 (7.8/1000) were stillborn. Consideration of maternal parity showed higher stillbirth proportions for primiparous women (6.5/1000) and those women whose parity was 5 or more (10.8/1000).

The causes of stillbirths were unexplained for 43 babies (29.4%) and the deaths of 23 babies (15.7%) were attributed to lethal congenital malformations.

There were 129 neonatal deaths, giving a neonatal mortality proportion of 5.4/1000 livebirths; for babies of Caucasian women the proportion was 5.0/1000, for babies of Aboriginal mothers 10.6/1000 and for babies of women of other races 6.9/1000.

Post neonatal deaths numbered 71 babies (3.0/1000 livebirths). Thirty three (42.9%) of these were attributed to Sudden Infant Death Syndrome and 23 (29.9%) to lethal congenital malformations. The majority of these post neonatal deaths occurred during the winter months of April to September.

The perinatal mortality proportion was 11.5/1000 total births. For babies of Caucasian women the proportion was 10.8/1000, for babies of Aboriginal women 23.3/1000 and babies of women of other races 12.2/1000. Perinatal deaths amongst babies born to Aboriginal teenage mothers (19.8/1000) was greater than for babies born to Caucasian women in the same age group (11.7/1000). The proportion of perinatal mortality among babies of single women (14.2/1000) and of babies of separated, divorced or widowed women was noticeably higher than the proportion (11.1/1000) for babies of women socially supported by a male partner.

Infant deaths numbered 200, being 129 neonatal deaths and 71 post neonatal deaths. These numbers represent an overall proportion of 8.4/1000 livebirths.

Among babies of Aboriginal women the proportion is almost three times this (20.3/1000) with babies born to Aboriginal teenage women being at the greatest risk of death in infancy (25.1/1000 livebirths). In addition, babies born to those Aboriginal women with a parity of 5 or more showed an increased incidence of infant death with a proportion of 73.7/1000 livebirths.

In accord with perinatal deaths, overall the proportion of infant deaths was higher where mothers were socially unsupported by a male partner. An exception was shown among Aboriginal families where there was little difference in proportions.

The major causes of infant death remain lethal congenital malformation (34.5%), Sudden Infant Death Syndrome (27.5%) and low birthweight related disorders (25.0%).

Babies born to Aboriginal mothers have higher proportions of perinatal and infant mortality than those babies born to non-Aboriginal women. Although the infant mortality proportion among babies of Aboriginal women has decreased by almost one third in the past six years from, 31.3/1000 in 1980 to 20.3/1000 in 1986, it still remains more than double that of the overall infant mortality proportion of 8.4/1000 livebirths in 1986.

ACKNOWLEDGEMENTS

The author acknowledges the contribution of many people for input essential to this document.

- . The midwives of Western Australia for their cooperation in providing the data related to all birth incidences;
- . Dr Vivienne Waddell whose meticulous collection of the data on infant deaths is relied on for accuracy;
- . Mrs Elizabeth Rohwedder for supervising the data entry and for all computing, including creation of the infant deaths file, and Miss Margo O'Neill for retrieval of the required information;
- . The Registrar General's Office for providing information on deaths of liveborn infants;
- . The Australian Bureau of Statistics for population estimates;
- . Mrs Adda Hopkins of the Community and Child Health Services for verification of information on Aboriginal deaths;
- . The clerical staff of Maternal and Child Health Studies Unit, Epidemiology and Research Branch, for coding and processing all Midwives' Notification Forms 2.

TABLES

PAGE

BIRTHS

1.	Maternal Race and Condition of Births in Western Australia 1986.	6
2.	Livebirths and Total Births by Statistical Division of Maternal Residence and Maternal Race in Western Australia in 1986.	7
3.	Maternal Age and Maternal Race for Women Confined in Western Australia in 1986.	9

STILLBIRTHS, NEONATAL AND POST-NEONATAL MORTALITY

4.	Stillbirths, Neonatal and Perinatal Deaths by Statistical Division of Maternal Residence and Maternal Race in Western Australia in 1986.	12
5.	Stillbirths by Maternal Race and Maternal Age in Western Australia in 1986.	13
6.	Stillbirths by Maternal Race and Parity in Western Australia in 1986.	13
7.	Condition, Plurality and Maternal Race of Births in Western Australia, in 1986.	14
8.	Stillbirth Proportion by Maternal Race and Birthweight Distribution in Western Australia in 1986.	16
9.	Cause of Stillbirth by Maternal Race in Western Australia in 1986.	17
10.	Neonatal Deaths by Maternal Race and Maternal Age in Western Australia in 1986.	18
11.	Neonatal Deaths by Maternal Race and Parity in Western Australia in 1986.	19
12.	Neonatal Deaths by Maternal Race and Plurality in Western Australia in 1986.	19
13.	Neonatal Mortality by Maternal Race and Birthweight Distribution in Western Australia in 1986.	21
14.	Age at Neonatal Death by Maternal Race in Western Australia in 1986.	22
15.	Cause of Neonatal Death by Maternal Race in Western Australia in 1986.	24
16.	Post-Neonatal and Infant Mortality by Statistical Division of Maternal Residence and Maternal Race in Western Australia in 1986.	25

TABLES Continued

	<u>PAGE</u>
17. Post-Neonatal Deaths by Maternal Race and Maternal Age in Western Australia in 1986.	26
18. Post-Neonatal Deaths by Maternal Race and Conjugal State in Western Australia in 1986.	27
19. Post-Neonatal Deaths by Maternal Race and Parity in Western Australia in 1986.	27
20. Post-Neonatal Deaths by Maternal Race and Plurality in Western Australia in 1986.	28
21. Post-Neonatal Mortality by Maternal Race and Birthweight Distribution in Western Australia in 1986.	29
22. Cause of Post-Neonatal Death by Maternal Race in Western Australia in 1986.	30
23. Cause of Post-Neonatal Death by Seasonal Incidence in Western Australia in 1986.	31
 PERINATAL MORTALITY	
24. Stillbirths, Neonatal and Perinatal Mortality by Maternal Race in Western Australia in 1986.	32
25. Perinatal Deaths by Maternal Race and Maternal Age in Western Australia in 1986.	33
26. Perinatal Deaths by Maternal Race and Parity in Western Australia in 1986.	34
27. Perinatal Deaths by Maternal Race and Birthweight Distribution in Western Australia in 1986.	35
28. Perinatal Deaths by Maternal Race and Sex in Western Australia in 1986.	36
29. Perinatal Deaths by Maternal Race and Conjugal State in Western Australia in 1986.	36
 INFANT MORTALITY	
30. Infant Deaths by Maternal Race and Maternal Age in Western Australia in 1986.	37
31. Infant Deaths by Maternal Race and Conjugal State in Western Australia in 1986.	38
32. Infant Deaths by Maternal Race and Parity in Western Australia in 1986.	39
33. Infant Deaths by Maternal Race and Plurality in Western Australia in 1986.	39

TABLES Continued

	<u>PAGE</u>
34. Infant Deaths by Maternal Race and Sex in Western Australia in 1986.	40
35. Infant Mortality by Maternal Race and Birthweight Distribution in Western Australia in 1986.	41
36. Infant Deaths by Maternal Race and Age at Death in Western Australia in 1986.	41
37. Cause of Infant Deaths and Maternal Race in Western Australia in 1986.	42
38. Perinatal and Infant Mortality of Maternal Age, Pluarlity and Sex in Western Australia in 1986.	43
39. Neonatal, Post-Neonatal and Infant Mortality by Maternal Race in Western Australia in 1986.	44
BIRTH TRENDS	
40. Crude Birth Rates for Aboriginal and Non-Aboriginal Western Australian Birth, 1980-1986.	45
41. Stillbirths, Neonatal and Perinatal Mortality for Aboriginal and Non-Aboriginal Births in Western Australia, 1980-1986.	47
42. Neonatal, Post-Neonatal and Infant Mortality for Aboriginal and Non-Aboriginal Births in Western Australia, 1980-1986.	51

FIGURES

	<u>PAGE</u>	
I	CRUDE BIRTH RATE, PERINATAL AND INFANT MORTALITY BY STATISTICAL DIVISION OF MATERNAL RESIDENCE IN WESTERN AUSTRALIA IN 1986.	8
II	STILLBIRTHS, NEONATAL AND PERINATAL MORTALITY FOR CAUCASIAN, ABORIGINAL AND OTHER RACIAL GROUPS IN WESTERN AUSTRALIA IN 1986.	11
III	BIRTHWEIGHT DISTRIBUTION OF STILLBIRTHS IN WESTERN AUSTRALIA IN 1986.	15
IV	BIRTHWEIGHT DISTRIBUTION OF NEONATAL DEATHS IN WESTERN AUSTRALIA IN 1986.	20
V	NEONATAL, POST-NEONATAL AND INFANT MORTALITY FOR CAUCASIAN, ABORIGINAL AND OTHER RACIAL GROUPS IN WESTERN AUSTRALIA IN 1986.	23
VI	CRUDE BIRTH RATES AND RACIAL GROUPINGS FOR WESTERN AUSTRALIAN BIRTHS, 1980-1986.	46
VII	STILLBIRTH PROPORTION AND RACIAL GROUPING OF BIRTHS IN WESTERN AUSTRALIA, 1980-1986.	49
VIII	PERINATAL MORTALITY AND RACIAL GROUPING FOR WESTERN AUSTRALIAN BIRTHS, 1980-1986.	50
IX	NEONATAL MORTALITY FOR RACIAL GROUPING FOR WESTERN AUSTRALIAN BIRTHS, 1980-1986.	52
X	POST-NEONATAL MORTALITY AND RACIAL GROUPING FOR WESTERN AUSTRALIAN BIRTHS, 1980-1986.	53
XI	INFANT MORTALITY AND RACIAL GROUPING FOR WESTERN AUSTRALIAN BIRTHS, 1980-1986.	54

1. INTRODUCTION

This report is the third in a continuing series examining perinatal and infant mortality.

The aim of compiling the data in this report is to measure relationships of mortality among infants with consideration of variables such as maternal race, maternal age, parity, conjugal state and infant plurality, gestation and birthweight.

This report relates to the cohort of babies that was born in Western Australia in 1986, and includes information on their outcomes up to the age of twelve months. Prior to 1984, mortality data was calculated according to year of death rather than year of birth.

Epidemiological studies in the area of infant mortality are naturally long term and this report compiles basic factual data which will assist research aimed to limit human loss in future years.

2. DEFINITIONS

Birthweight

The first weight, measured to the nearest five grams, of the newborn. It is usually obtained within the first hour of birth.

Low Birthweight

A birthweight of less than 2500 grams

Very Low Birthweight

A birthweight of less than 1500 grams

Extremely Low Birthweight

A birthweight of less than 1000 grams

Congenital Malformation

Any defect present at birth, probably of developmental origin.

Crude Birth Rate

The number of livebirths per 1000 person-years of total population.

Fertility Rate

The total births per 1000 woman-years to women aged between 15-44 years.

Infant Death

The death of a liveborn infant within the first year of life.

Livebirth

The complete expulsion or extraction from its mother of a product of conception, irrespective of duration of pregnancy, which after separation shows signs of life.

Mortality Proportions

Stillbirth - is the number of stillbirths per 1000 total births in a year.

Neonatal Mortality - is the number of neonatal deaths per 1000 livebirths in a year.

Perinatal Mortality - is the number of stillbirths and neonatal deaths per 1000 total births in a year.

Post-neonatal Mortality - is the number of post-neonatal deaths per 1000 livebirths in a year.

Infant Mortality - is the number of infant deaths per 1000 livebirths in a year.

Neonatal Death

The death of a liveborn infant within 28 days of birth.

Parity

The total number of livebirths and stillbirths of the mother prior to the parturition under consideration.

Perinatal Death

Is a stillbirth or neonatal death.

Postneonatal Death

Is the death of a liveborn infant occurring after the first month and within the first year of life.

Plurality

The number of fetuses or babies resulting from the pregnancy. On this basis, pregnancy may be classified as singleton or multiple.

Race - refers to mother's racial group, not that of the baby or of the father of the baby.

Caucasian - includes all people of caucasoid (European) heritage.

Aboriginal - includes persons of Australian- Aboriginal heritage (Australoid) or of mixed Aboriginal-caucasian heritage.

Other - includes Asian, Indian, Negroid, Polynesian, etc.

Stillbirth

Is the complete expulsion or extraction from its mother, of a product of conception of at least 20 weeks gestation or 400 grams birthweight, which after separation did not show any sign of life.

3. DATA COLLECTION

The Western Australian Midwives' Notification System forms the basis of this third annual report of perinatal and infant mortality.

Although this System collects data for babies ≥ 20 weeks gestation or ≥ 400 grams birthweight, this report includes only those babies whose birthweight was ≥ 500 grams.

Information related to deaths of liveborn babies was obtained from the Registrar General's Office, the Hospital Morbidity System, the Community and Child Health Services and the Australian Bureau of Statistics (Western Australian Branch). As far as can be determined from the above-mentioned sources, the data relating to number of deaths in this report is complete.

A computer file of deaths was created and linked to the Midwives' Notification System. This provided a comprehensive data base from which this report was written. After all follow up procedures were complete, linkage was 100% successful for babies ≥ 500 grams.

Intercensal estimates of total population of Western Australia and Statistical Divisions, and female populations by age were supplied by the Australian Bureau of Statistics (Western Australian Branch).

Aboriginal population statistics were supplied by the Community and Child Health Services of the Health Department of Western Australia.

4. BIRTHS IN WESTERN AUSTRALIA IN 1986

4.1 Births Incidence

Midwives' forms received by this department indicate that 23839 babies were born to 23561 women during 1986. This report includes statistics only on those babies whose birthweight was equal to or greater than 500 grams.

Examination of births showed that 21,285 (89.3%) were born to Caucasian women, 1,246 (5.2%) to Aboriginal women and 1,308 (5.5%) to women of other racial groups (Table 1).

4.2 Place of Birth

The majority 23,617 (99.1%) births occurred in hospital. Births in metropolitan hospitals numbered 17409 (73.0%) and non-metropolitan hospital births were 6208 (26.0%).

There were 222 (0.9%) non hospital births including 48 (0.2%) born before arrival at hospital and 174 (0.7%) planned supervised homebirths.¹

4.3 Maternal Place of Residence

Assessment of location of women bearing children throughout the State shows that the majority of births 15942 (66.9%) were to women whose usual place of residence was in the Perth Statistical Division (Table 2).

4.4 Crude Birth Rate

An overall crude birth rate of 16.2/1000 total population was identified for Western Australia during 1986. The area with the lowest crude birth rate (15.1/1000 total population) was the Perth Statistical Division (Figure 1).

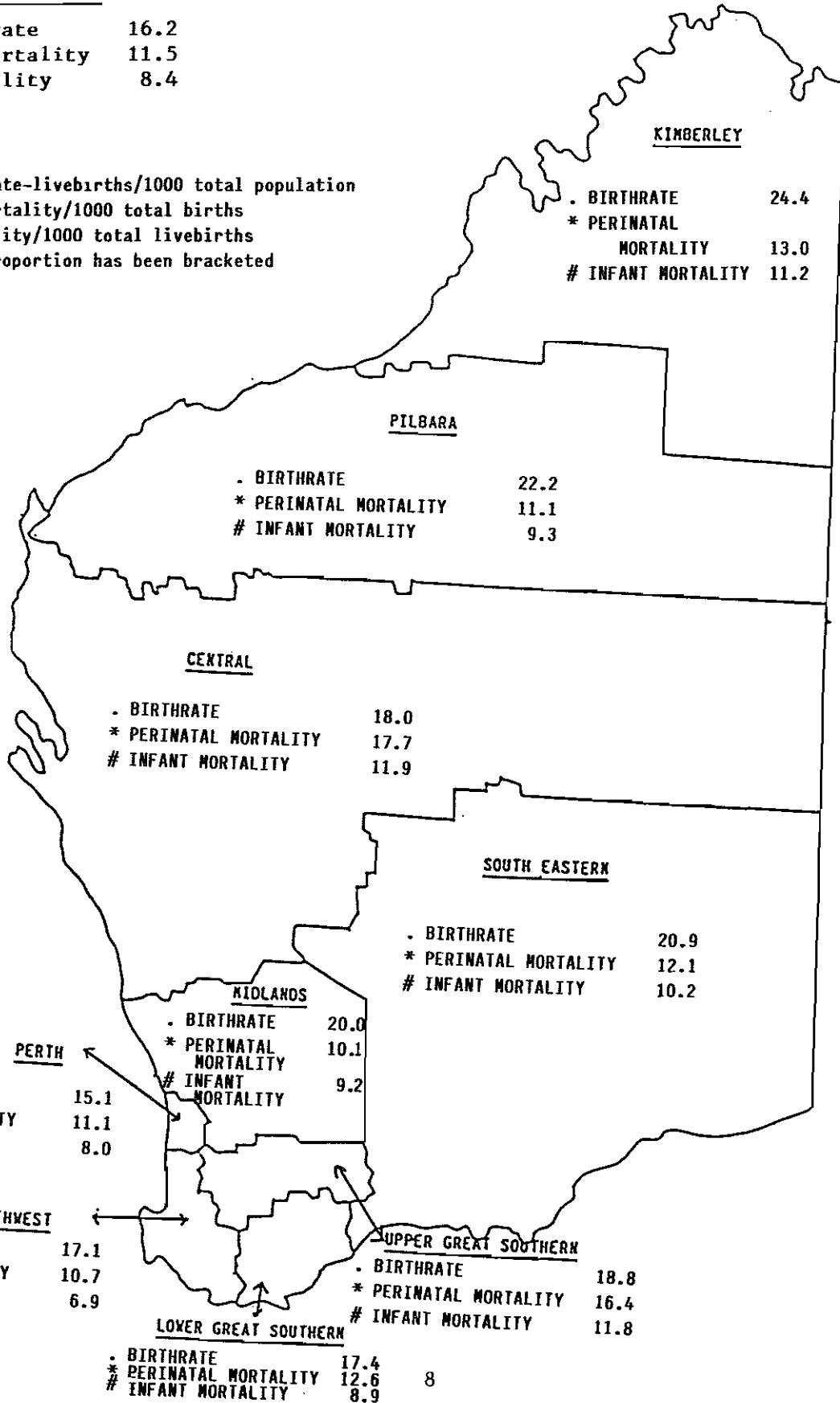
FIGURE I

CRUDE BIRTH RATE, PERINATAL AND INFANT MORTALITY
 BY STATISTICAL DIVISION OF MATERNAL RESIDENCE FOR BIRTHS
 IN WESTERN AUSTRALIA IN 1986

Overall Rates for WA:

Crude birthrate	16.2
Perinatal mortality	11.5
Infant mortality	8.4

. Crude birthrate-livebirths/1000 total population
 * Perinatal mortality/1000 total births
 # Infant mortality/1000 total livebirths
 () Where n < 5 proportion has been bracketed



4.5 Condition of Births

Analysis of the condition at birth showed 23693 (99.4%) babies were liveborn and 146 (0.6%) babies were stillborn.¹ Livebirths to Caucasian women numbered 21,162 (99.4%) and stillbirths 123 (0.6%). Among Aboriginal women there were 1,230 (98.7%) liveborn and 16 (1.3%) stillborn babies. For women of other races there were 1,301 (99.5%) livebirths and 7 (0.5%) stillbirths (Table 1).

4.6 Maternal Age and Births

Consideration of maternal age shows that the highest number of women confined (9,205, 39.1%) were in the 25 to 29 year age category.

Women in their teenage years accounted for 1,532 (6.5%) of total confinements. Almost a third (32.3%) of Aboriginal women confined were teenagers. This contrasts with Caucasian women of whom 5.2% were teenagers and women of other races with 2.3% teenage confinements. Women aged 40 years or more represented 0.7% of all women confined (Table 3).

TABLE 3 : MATERNAL AGE AND MATERNAL RACE OF WOMEN CONFINED IN WESTERN AUSTRALIA IN 1986

Maternal Age	Maternal Race						Total	
	Caucasian		Aboriginal		Other		No.	%
	No.	%	No.	%	No.	%		
< 13	-	-	1	-	-	-	1	-
14	6	-	14	1.1	-	-	20	0.1
15	29	0.1	28	2.3	-	-	57	0.2
16	104	0.5	49	4.0	3	0.2	156	0.7
17	212	1.0	81	6.6	6	0.5	299	1.3
18	290	1.4	105	8.5	8	0.6	403	1.7
19	462	2.2	121	9.8	13	1.0	596	2.5
< 19	1103	5.2	399	32.3	30	2.3	1532	6.5
20-24	5254	25.0	460	37.3	237	18.2	5951	25.3
25-29	8493	40.4	235	19.0	477	36.7	9205	39.1
30-34	4657	22.1	108	8.8	389	30.0	5154	21.9
35-39	1373	6.5	26	2.1	148	11.4	1547	6.6
40-44	142	0.7	5	0.4	17	1.3	164	0.7
> 45	6	-	1	-	1	-	8	-
TOTAL	21028	100.0	1234	100.0	1299	100.0	23561	100.0

Excludes births <500 grams birthweight.

5. STILLBIRTHS, NEONATAL AND POST-NEONATAL MORTALITY IN WESTERN AUSTRALIA IN THE 1986 BIRTH COHORT

5.1 Stillbirths

There were 146 stillbirths in Western Australia during the 1986 year which were equal to or greater than 500 grams birthweight. The stillbirth proportion for the State was 6.1/1000 total births (Table 4).

The stillbirth proportion for babies of Aboriginal women (12.8/1000) was high compared to that for babies of Caucasian women (5.8/1000) and for babies of women of other racial groups (5.3/1000).

Stillbirth proportions relating to Statistical Divisions of maternal residence are shown on Table 4. It should be noted, however, that due to small numbers of births in each country division the proportions do vary from year to year and may be considered unrepresentative on an annual basis.

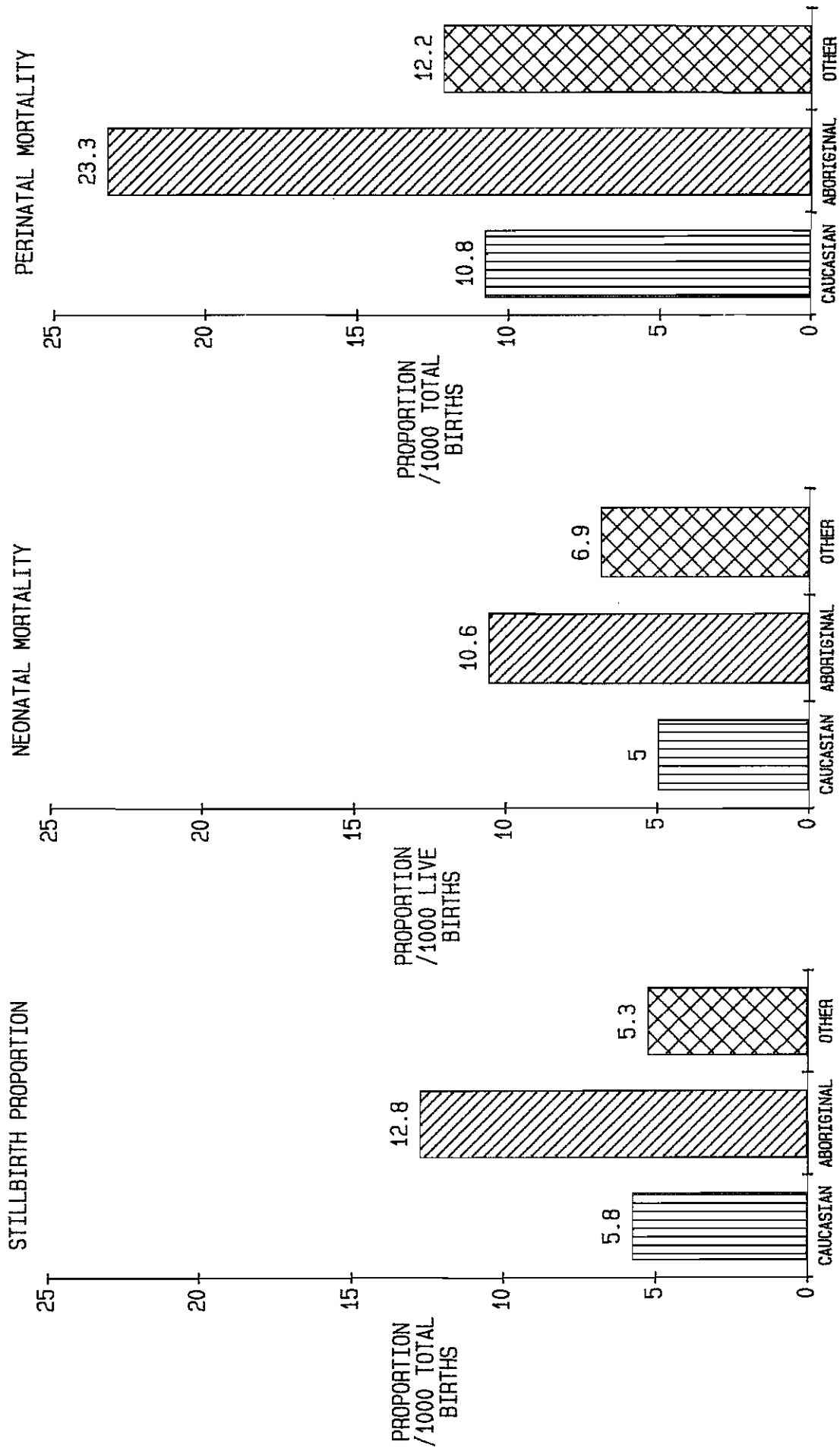
The lowest proportion recorded in the State was for the Perth Metropolitan area (5.8/1000) (Table 4, Figure II).

5.1.1 Maternal Race and Maternal Age

The overall proportion of stillbirths was 6.1/1000 total births. For babies of teenage mothers, the proportion was 7.8/1000 and among babies of Aboriginal teenage mothers the proportion was 9.9/1000 total births. Among women aged 25-29 years, the group with the highest number of births overall, the stillbirth proportion was low at 5.3/1000 total births. Among babies of women aged 35 years and over 17 (10.8/1000) stillbirths occurred (Table 5).

FIGURE II

STILLBIRTHS, NEONATAL AND PERINATAL MORTALITY FOR ABORIGINALS AND NON-ABORIGINALS IN WESTERN AUSTRALIA IN 1986



Excludes births less than 500 grams birthweight.

SOURCE: MIDWIVES' NOTIFICATION SYSTEM
REGISTRAR GENERAL'S OFFICE
COMMUNITY AND CHILD HEALTH SERVICES

TABLE 4 : STILLBIRTHS, NEONATAL AND PERINATAL DEATHS BY STATISTICAL DIVISION OF MATERNAL RESIDENCE AND MATERNAL RACE IN WESTERN AUSTRALIA IN 1986

Statistical Division	Maternal Race												Total											
	Caucasian				Aboriginal				Other				Still- births No. Prop ⁿ	Neo- natal No. Prop ⁿ	Peri- natal No. Prop ⁿ									
	Still- births No. Prop ⁿ	Neo- natal No. Prop ⁿ	Peri- natal No. Prop ⁿ	Still- births No. Prop ⁿ	Neo- natal No. Prop ⁿ	Peri- natal No. Prop ⁿ	Still- births No. Prop ⁿ	Neo- natal No. Prop ⁿ	Peri- natal No. Prop ⁿ	Still- births No. Prop ⁿ	Neo- natal No. Prop ⁿ	Peri- natal No. Prop ⁿ												
Perth	82	5.6	77	5.3	159	10.9	4	(12.6)	2	(6.4)	6	18.9	6	5.9	6	5.9	12	11.8	92	5.8	85	5.4	177	11.1
Southwest	12	6.0	7	3.6	19	9.6	2	(38.5)	1	(20.0)	3	(57.7)	-	-	-	-	-	-	14	6.8	8	3.9	22	10.7
Lower Great Southern	7	9.5	2	(2.7)	9	12.2	-	-	1	(28.6)	1	(28.6)	-	-	-	-	-	-	7	8.8	3	(3.8)	10	12.6
Upper Great Southern	3	(7.6)	3	(7.7)	6	15.3	1	(34.5)	-	-	1	(34.5)	-	-	-	-	-	-	4	(9.4)	3	(7.0)	7	16.4
Midlands	4	(4.3)	6	6.5	10	10.8	-	-	-	-	-	-	-	-	-	-	-	-	4	(4.0)	6	6.1	10	10.1
South Eastern	4	(4.8)	2	(2.4)	6	7.2	3	(26.5)	2	(18.2)	5	44.2	1	(26.3)	-	-	1	(26.3)	8	8.0	4	(4.0)	12	12.1
Central	7	8.7	5	6.3	12	14.9	1	(5.8)	2	(11.6)	3	(17.3)	-	-	3	(83.3)	3	(83.3)	8	7.9	10	9.9	18	17.7
Pilbara	3	(3.7)	4	(5.0)	7	8.7	2	(14.5)	3	(22.0)	5	36.2	-	-	-	-	-	-	5	4.6	7	6.5	12	11.1
Kimberley	1	(5.3)	1	(5.4)	2	(10.7)	3	(8.9)	2	(5.9)	5	14.7	-	-	-	-	-	-	4	(7.4)	3	(5.6)	7	13.0
Outside WA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	123	5.8	107	5.0	230	10.8	16	12.8	13	10.6	29	23.3	7	5.3	9	6.9	16	12.2	146	6.1	129	5.4	275	11.5

Excludes births <500 grams birthweight.

1 Stillbirth & Perinatal Death proportion/1000 total births.

2 Neonatal Death proportion/1000 livebirths.

() Where n<5 proportion has been bracketed.

SOURCE: MIDWIVES' NOTIFICATION SYSTEM
REGISTRAR GENERAL'S OFFICE
CHILD AND COMMUNITY HEALTH SERVICES

TABLE 5 : STILLBIRTHS BY MATERNAL RACE AND MATERNAL AGE IN WESTERN AUSTRALIA IN 1986

Maternal Age	Maternal Race									Total		
	Caucasian			Aboriginal			Other			No.	Total	Prop ⁿ
	No.	Total	Prop ⁿ	No.	Total	Prop ⁿ	No.	Total	Prop ⁿ			
≤ 15	-	35	-	1	43	23.2	-	-	-	1	78	12.8
16	-	104	-	1	49	20.4	-	3	-	1	156	6.4
17	1	213	4.7	-	82	-	-	6	-	1	301	3.3
18	3	291	10.3	1	107	9.3	1	8	125.0	5	406	12.3
19	3	464	6.5	1	122	8.2	-	13	-	4	599	6.7
≤ 19	7	1107	6.3	4	403	9.9	1	30	33.3	12	1540	7.8
20-24	24	5296	4.5	6	463	12.9	-	240	-	30	5999	5.0
25-29	45	8620	5.2	2	239	8.4	3	480	6.2	50	9339	5.3
30-34	32	4720	6.8	2	108	18.5	3	392	7.6	37	5220	7.1
35-39	15	1393	10.8	2	27	74.1	-	148	-	17	1568	10.8
40-44	-	143	-	-	5	-	-	17	-	-	165	-
> 45	-	6	-	-	1	-	-	1	-	-	8	-
TOTAL	123	21285	5.8	16	1246	12.8	7	1308	5.3	146	23839	6.1

Excludes births <500 grams birthweight.

¹ Proportion/1000 total births.

5.1.2 Maternal Race and Parity

Sixty (6.5/1000) stillborn babies were to primiparous women compared with 80 (9.1/1000) in the 1985 birth cohort. For babies of women whose parity was three or more the stillbirth proportion rose from 11 (4.8/1000) in 1985 to 21 (9.1/1000) in 1986 (Table 6).

TABLE 6 : STILLBIRTHS BY MATERNAL RACE AND PARITY IN WESTERN AUSTRALIA IN 1986

Parity	Maternal Race									Total		
	Caucasian			Aboriginal			Other			No.	Total	Prop ⁿ
	No.	Total	Prop ⁿ	No.	Total	Prop ⁿ	No.	Total	Prop ⁿ			
0	52	8399	6.2	4	363	11.0	4	506	7.9	60	9268	6.5
1 - 2	55	11040	5.0	7	547	12.8	3	671	4.5	65	12258	5.3
3 - 4	15	1677	8.9	3	239	12.5	-	119	-	18	2035	8.8
≥ 5	1	169	5.9	2	97	20.6	-	12	-	3	278	10.8
TOTAL	123	21285	5.8	16	1246	12.8	7	1308	5.3	146	23839	6.1

Excludes births <500 grams birthweight.

¹ Proportion/1000 total births.

5.1.3 Maternal Race, Condition and Plurality

Consideration of condition and plurality at birth showed that eleven of the 146 stillborn babies in 1986 were multiple births. This represents a proportion of 20.0/1000 multiple births. Of the 135 singleton stillbirths (5.8/1000 singleton births), those to Aboriginal mothers numbered 16 representing a higher proportion (13.1/1000) of stillbirths among singleton births to Aboriginal women (Table 7).

TABLE 7 : CONDITION, PLURALITY AND MATERNAL RACE OF BIRTHS IN WESTERN AUSTRALIA, 1986

	Maternal Race											Total				
	Caucasian				Aboriginal				Other				Total Live Births	Still Births	Propr Births	
	Total Births	Live Births	Still Births	Propr Births	Total Births	Live Births	Still Births	Propr Births	Total Births	Live Births	Still Births	Propr Births				
Singleton	20778	20665	113	5.4	1222	1206	16	13.1	1290	1284	6	4.6	23290	23155	135	5.8
Multiple	507	497	10	19.7	24	24	-	-	18	17	1	55.5	549	538	11	20.0
TOTAL	21285	21162	123	5.8	1246	1230	16	12.8	1308	1301	7	5.3	23839	23693	146	6.1

Excludes births <500 grams birthweight.

¹ Proportion/1000 total births.

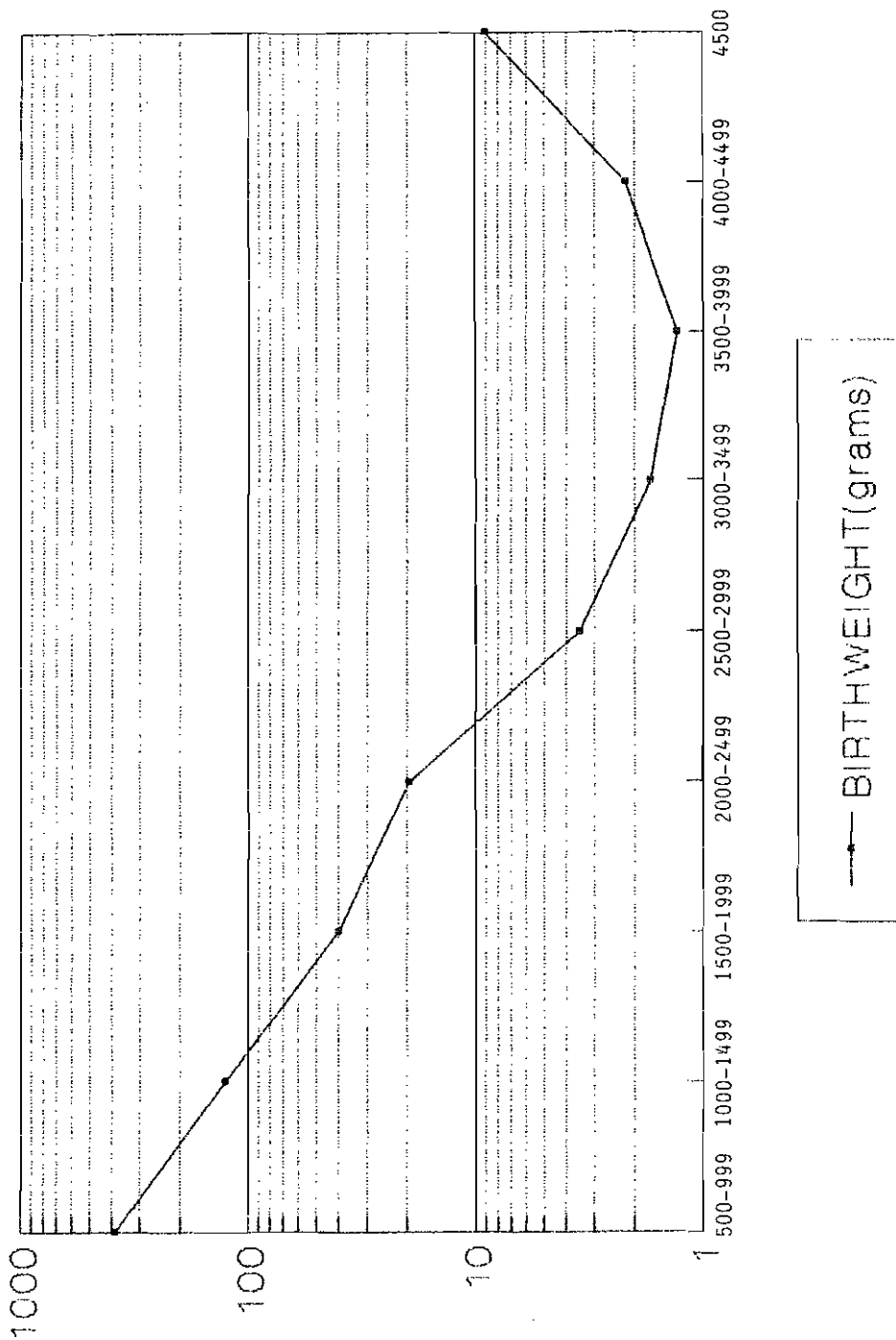
5.1.4 Maternal Race and Birthweight

The stillbirth proportion for all races varied inversely for birthweight up to 4000 grams, and then increased slightly in heavier babies. The proportion of stillbirths in low birthweight babies was 69.9/1000. The lowest stillbirth proportion (1.3/1000) was for babies of birthweight 3500-3999 grams (Table 8, Figure III).

FIGURE III

BIRTHWEIGHT DISTRIBUTION OF STILLBIRTHS IN WESTERN AUSTRALIA IN 1986.

PERCENTAGE OF TOTAL BIRTHS



Excludes births less than 500 grams birthweight.

SOURCE : MIDWIVES' NOTIFICATION SYSTEM

TABLE 8 : STILLBIRTH PROPORTION BY MATERNAL RACE AND BIRTHWEIGHT DISTRIBUTION IN WESTERN AUSTRALIA IN 1986

Birthweight (grams)	Maternal Race									Total		
	Caucasian			Aboriginal			Other			No.	Total	Prop ⁿ
	No.	Total	Prop ⁿ	No.	Total	Prop ⁿ	¹ No.	Total	Prop ⁿ			
	Births			Births			Births			Births		
500 - 999	47	107	439.2	4	15	(266.7)	2	15	(133.3)	53	137	386.9
1000 - 1499	15	133	112.8	2	12	(166.7)	2	6	(333.3)	19	151	125.8
1500 - 1999	9	239	37.7	1	27	(37.0)	1	9	(111.1)	11	275	40.0
2000 - 2499	17	724	23.5	-	92	-	-	52	-	17	868	19.6
< 2500	88	1203	73.1	7	146	47.9	5	82	61.0	100	1431	69.9
2500 - 2999	10	3212	3.1	3	269	(11.1)	-	244	-	13	3725	3.5
3000 - 3499	12	8012	1.5	2	472	(4.2)	1	510	(2.0)	15	8994	1.7
3500 - 3999	7	6506	1.1	1	269	(3.7)	1	357	(2.8)	9	7132	1.3
4000 - 4499	4	2056	(1.9)	1	72	(13.9)	-	99	-	5	2227	2.2
≥ 4500	2	296	(6.8)	1	17	(58.8)	-	16	-	3	329	(9.1)
Unknown	-	-	-	1	1	-	-	-	-	1	1	-
TOTAL	123	21285	5.8	16	1246	12.8	7	1308	5.3	146	23839	6.1

Excludes births <500 grams birthweight.

¹ Proportion/1000 total births.

() Where n<5 proportion has been bracketed.

5.1.5 Causes of Stillbirths

The distribution of stillbirth causes followed a similar pattern to 1985. The largest category was 46 (31.5%) babies of extremely low birthweight (less than 1000 grams) in 1986, higher than 34 (22.7%) in 1985. This increase corresponds with a reduction in stillbirth with cause unknown from 59 (39.3%) in 1985 to 43 (29.4%) in 1986 (Table 9).

The high percentage of unexplained stillbirths would be reduced even further if autopsies were performed on more babies. Of the 146 stillborn babies, it is known that 88 (60.3%) had autopsies and 41 (28.1%) did not. It is not known whether the remaining 17 (11.6%) stillborn babies underwent autopsy.

Eighty five (58.2%) stillbirths were recorded as antepartum deaths, 42 (28.8%) were recorded as intrapartum deaths and for 19 (13.0%) the time of death was unknown.

TABLE 9 : CAUSE OF STILLBIRTH BY MATERNAL RACE IN WESTERN AUSTRALIA IN 1986

Cause of Death	Maternal Race						Total	
	Caucasian		Aboriginal		Other			
	No.	%	No.	%	No.	%	No.	%
Lethal Congenital Malformation	21	17.1	2	12.5	-	-	23	15.7
Extremely Low Birth Weight (<1000g)*	41	33.3	3	18.7	2	28.6	46	31.5
Unknown	35	28.4	6	37.5	2	28.6	43	29.4
Maternal:								
Obstetric	-	-	2	12.5	-	-	2	1.4
Medical	-	-	-	-	-	-	-	-
Hypertension	2	1.6	1	6.2	1	14.3	4	2.7
Placenta and Cord	17	13.8	1	6.2	2	28.6	20	13.7
Other	7	5.7	1	6.2	-	-	8	5.5
TOTAL	123	100.0	16	100.0	7	100.0	146	100.0

Excludes births <500 grams birthweight.

*Any non-malformed stillbirth of birthweight <1000 grams was included in the extremely low birthweight category.

5.2 Neonatal Deaths

There were 129 neonatal deaths from the 23693 livebirths in 1986.¹ The overall neonatal mortality proportion was 5.4/1000 livebirths. For babies of Aboriginal women neonatal mortality was 10.6/1000 livebirths which is more than twice that for babies of Caucasian women (5.0/1000) and greater than the proportion for babies of women of other races (6.9/1000) (Table 4).

The figures for neonatal mortality by Statistical Division of maternal residence are provided in Table 4. However, it should be noted that due to small numbers of births in each country division, the proportions do fluctuate markedly.³

5.2.1 Maternal Race and Maternal Age

Ten (6.5/1000) of the 129 liveborn babies who died within the first 28 days of life, were born to teenage mothers. In the age group where the highest number of births occurred (25-29 years) the neonatal mortality proportion was 5.8/1000. The proportion of neonatal deaths (10.0/1000) among babies of Aboriginal teenage mothers is almost twice that for babies of Caucasian teenage women (5.5/1000) (Table 10).

TABLE 10 : NEONATAL DEATHS BY MATERNAL RACE AND MATERNAL AGE IN WESTERN AUSTRALIA IN 1986

Maternal Age	Maternal Race									Total		
	Caucasian			Aboriginal			Other			No.	Live Births	Prop ⁿ
	No.	Live Births	Prop ⁿ	No.	Live Births	Prop ⁿ	No.	Live Births	Prop ⁿ			
≤ 15	-	35	-	1	42	23.8	-	-	-	1	77	13.0
16	-	104	-	1	48	20.8	-	3	-	1	155	6.4
17	4	212	18.9	-	82	-	-	6	-	4	300	13.3
18	-	288	-	1	106	9.4	-	7	-	1	401	2.5
19	2	461	4.3	1	121	8.3	-	13	-	3	595	5.0
≤ 19	6	1100	5.5	4	399	10.0	-	29	-	10	1528	6.5
20-24	27	5272	5.1	3	457	6.6	1	240	4.2	31	5969	5.2
25-29	47	8575	5.5	3	237	12.6	4	477	8.4	54	9289	5.8
30-34	22	4688	4.7	2	106	18.9	3	389	7.7	27	5183	5.2
35-39	5	1378	3.6	1	25	40.0	-	148	-	6	1551	3.9
40-44	-	143	-	-	5	-	1	17	58.8	1	165	6.1
≥ 45	-	6	-	-	1	-	-	1	-	-	8	-
TOTAL	107	21162	5.0	13	1230	10.6	9	1301	6.9	129	23693	5.4

Excludes births <500 grams birthweight.

¹ Proportion/1000 total livebirths.

5.2.2 Maternal Race and Parity

Sixty four (5.2/1000) neonatal deaths were to women with a previous parity of one or two. The highest proportion (52.6/1000) was for babies of Aboriginal women with parity of five or more (Table 11).

TABLE 11 : NEONATAL DEATHS BY MATERNAL RACE AND PARITY IN WESTERN AUSTRALIA IN 1986

Parity	Maternal Race									Total		
	Caucasian			Aboriginal			Other			No.	Live Births	Prop ⁿ
	No.	Live Births	Prop ⁿ	No.	Live Births	Prop ⁿ	No.	Live Births	Prop ⁿ			
0	48	8347	5.7	3	359	8.3	2	502	4.0	53	9208	5.8
1 - 2	52	10985	4.7	5	540	9.3	7	668	10.5	64	12193	5.2
3 - 4	6	1662	3.6	-	236	-	-	119	-	6	2017	3.0
≥ 5	1	168	5.9	5	95	52.6	-	12	-	6	275	21.8
TOTAL	107	21162	5.0	13	1230	10.6	9	1301	6.9	129	23693	5.4

Excludes births <500 grams birthweight.

¹ Proportion/1000 livebirths.

5.2.3 Maternal Race and Plurality

These data show that the neonatal death proportion of 4.7/1000 livebirths for singleton births and 37.2/1000 livebirths for multiple births. The proportion of neonatal deaths among twin births to Aboriginal women (83.3/10000) is more than twice that for twin babies of Caucasian women (Table 12).

TABLE 12 : NEONATAL DEATHS BY MATERNAL RACE AND PLURALITY IN WESTERN AUSTRALIA IN 1986

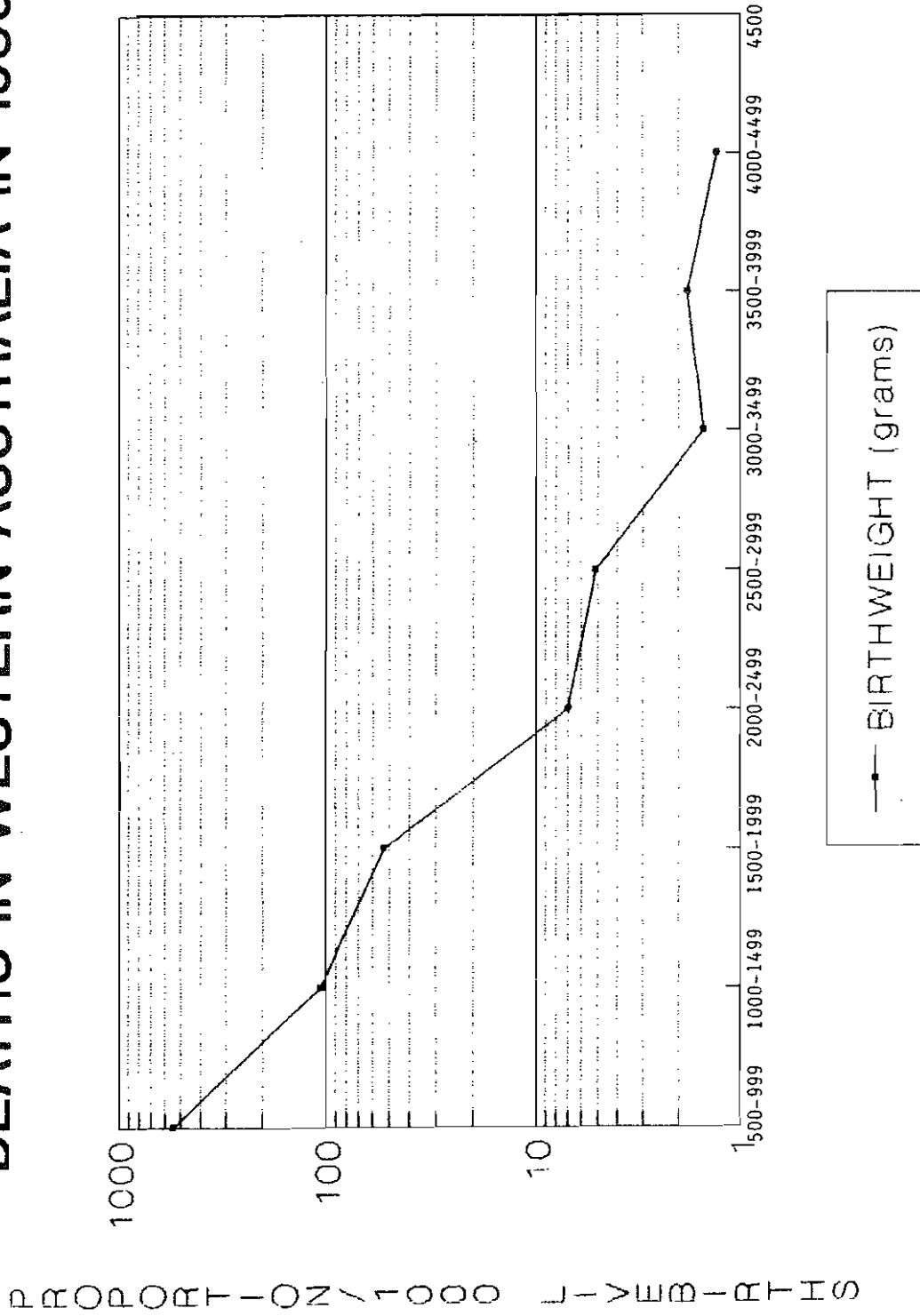
Plurality	Maternal Race									Total		
	Caucasian			Aboriginal			Other			No.	Live Births	Prop ⁿ
	No.	Live Births	Prop ⁿ	No.	Live Births	Prop ⁿ	No.	Live Births	Prop ⁿ			
Singleton	90	20665	4.4	11	1206	9.1	8	1284	6.2	109	23155	4.7
Twins	16	470	34.0	2	24	83.3	1	17	58.8	19	511	37.2
Triplets	1	27	37.0	-	-	-	-	-	-	1	27	37.0
TOTAL	107	21162	5.0	13	1230	10.6	9	1301	6.9	129	23693	5.4

Excludes births <500 grams birthweight.

¹ Proportion/1000 livebirths.

FIGURE IV

BIRTHWEIGHT DISTRIBUTION OF NEONATAL DEATHS IN WESTERN AUSTRALIA IN 1986.



Excludes births less than 500 grams birthweight.

SOURCE : MIDWIVES' NOTIFICATION SYSTEM

5.2.4 Maternal Race and Birthweight

In general terms, as reported for stillbirths, neonatal mortality proportions for all races fell as birthweight rose. The proportion of low birthweight neonatal deaths among babies born to Aboriginal mothers (43.2/1000) is less than for low birthweight neonatal deaths of babies born to Caucasian women (61.9/1000) and babies of women of other races (64.9/1000) (Table 13, Figure IV).

TABLE 13 : NEONATAL MORTALITY BY MATERNAL RACE AND BIRTHWEIGHT DISTRIBUTION IN WESTERN AUSTRALIA IN 1986

Birthweight (grams)	Maternal Race									Total		
	Caucasian			Aboriginal			Other			No.	Live Births	Prop ⁿ
	No.	Live Births	Prop ⁿ	No.	Live Births	Prop ⁿ	No.	Live Births	Prop ⁿ			
500 - 999	38	60	633.3	3	11	(272.7)	5	13	384.6	46	84	547.6
1000 - 1499	14	118	118.6	-	10	-	-	4	-	14	132	106.1
1500 - 1999	11	230	47.8	3	26	(115.4)	-	8	-	14	264	53.0
2000 - 2499	6	707	8.5	-	92	-	-	52	-	6	851	7.0
< 2500	69	1115	61.9	6	139	43.2	5	77	64.9	80	1331	60.1
2500 - 2999	16	3202	5.0	3	266	(11.3)	-	244	-	19	3712	5.1
3000 - 3499	11	8000	1.4	1	470	(2.1)	2	509	(3.9)	14	8979	1.6
3500 - 3999	8	6499	1.2	3	268	(11.2)	2	356	(5.6)	13	7123	1.8
4000 - 4499	3	2052	(1.5)	-	71	-	-	99	-	3	2222	(1.3)
≥ 4500	-	294	-	-	16	-	-	16	-	-	326	-
TOTAL	107	21162	5.0	13	1230	10.6	9	1301	6.9	129	23693	5.4

Excludes births <500 grams birthweight.

¹ Proportion/1000 livebirths.

() Where n<5 proportion has been bracketed.

5.2.5 Maternal Race and Age at Neonatal Death

The majority (79.8%) of neonatal deaths occurred in the first week of life, (68.2%) occurring within the first 48 hours of life. Among babies of Aboriginal women a lower percentage of neonatal deaths occurred in the first seven days of life compared with babies born to Caucasian women or women of other races (Table 14).

TABLE 14 : AGE AT NEONATAL DEATHS BY MATERNAL RACE IN WESTERN AUSTRALIA
IN 1986

Age at Death	Maternal Race						Total	
	Caucasian		Aboriginal		Other		No.	%
	No.	%	No.	%	No.	%		
< day 1	38	35.5	6	46.1	5	55.5	49	38.0
day 1	26	24.3	3	23.1	3	33.3	32	24.8
day 2	7	6.5	-	-	-	-	7	5.4
day 3	6	5.6	-	-	-	-	6	4.6
day 4	2	1.9	-	-	-	-	2	1.5
day 5	3	2.8	-	-	-	-	3	2.3
day 6	1	0.9	-	-	-	-	1	0.8
day 7	3	2.8	-	-	-	-	3	2.3
day ≤1-7	86	80.4	9	69.2	8	88.9	103	79.8
day 8-14	10	9.3	1	7.7	1	11.1	12	9.3
day 15-21	6	5.6	2	15.4	-	-	8	6.2
day 22-28	5	4.7	1	7.7	-	-	6	4.6
TOTAL	107	100.0	13	100.0	9	100.0	129	100.0

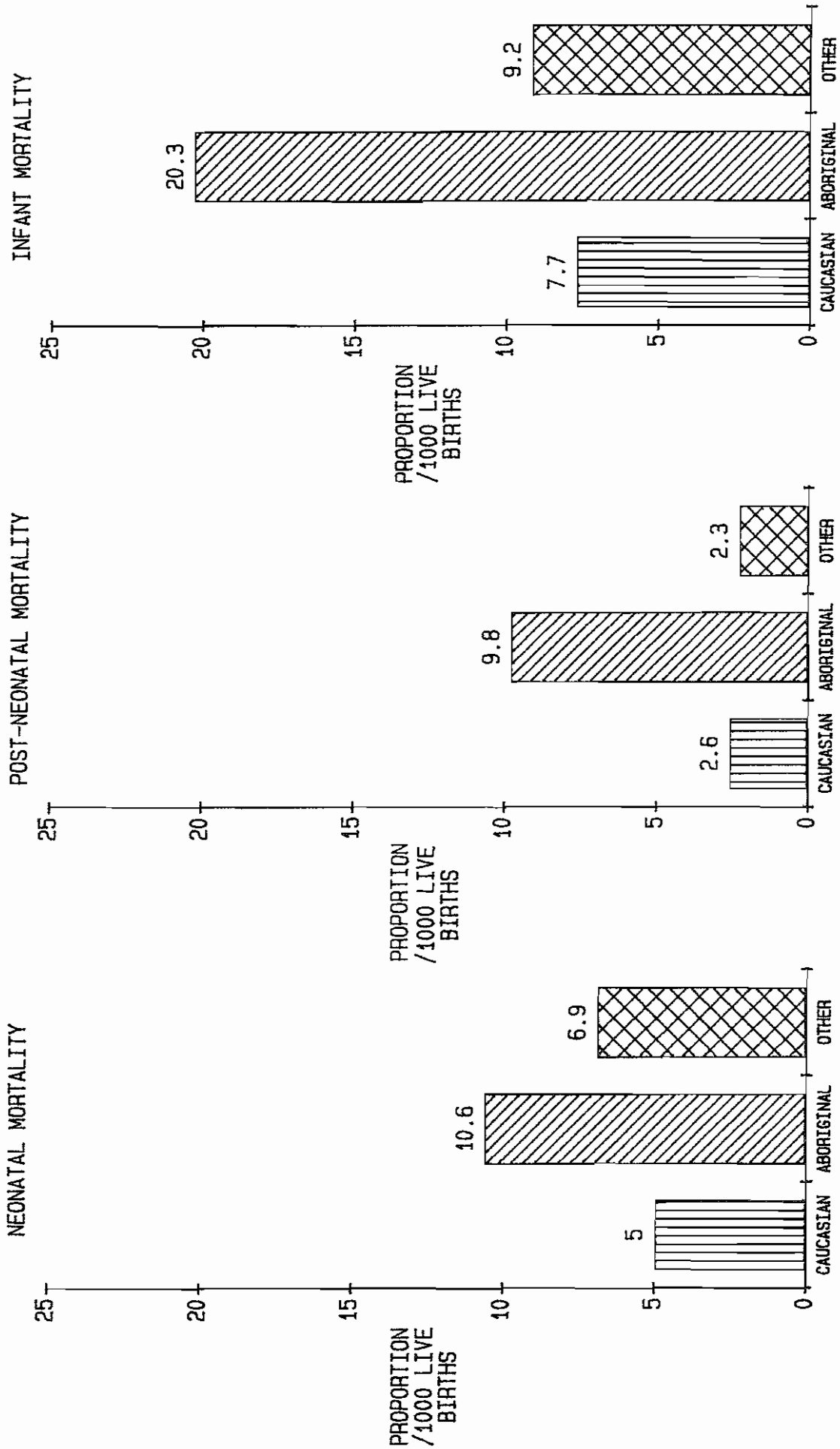
Excludes births <500 grams birthweight.

5.2.6 Causes of Neonatal Deaths

Lethal congenital malformation in 57 babies (44.2%) and low birthweight in 50 babies (38.8%) were the main causes of neonatal death in the 1986 birth cohort.

The cause of more than half (53.8%) of neonatal deaths among babies of Aboriginal mothers were recorded as lethal congenital malformation (Table 15).

FIGURE V
 NEONATAL, POST-NEONATAL AND INFANT MORTALITY FOR
 ABORIGINALS AND NON-ABORIGINALS IN WESTERN AUSTRALIA IN 1986



Excludes births less than 500 grams birthweight.

SOURCE: MIDWIVES' NOTIFICATION SYSTEM
 REGISTRAR GENERAL'S OFFICE
 COMMUNITY AND CHILD HEALTH SERVICES

TABLE 15 : CAUSE OF NEONATAL DEATH BY MATERNAL RACE IN WESTERN AUSTRALIA
IN 1986

Cause of Death	Maternal Race						Total	
	Caucasian		Aboriginal		Other		No.	%
	No.	%	No.	%	No.	%		
Lethal Congenital Malformation	47	43.9	7	53.8	3	33.3	57	44.2
Low Birthweight (<2500grams)	45	42.0	3	23.1	2	22.2	50	38.8
Asphyxia	5	4.7	-	-	1	11.1	6	4.6
Pregnancy conditions	1	0.9	-	-	1	11.1	2	1.5
Infections	-	-	-	-	-	-	-	-
Hydrops fetalis	2	1.9	-	-	1	11.1	3	2.3
Other	2	1.9	-	-	-	-	2	1.5
Sudden Infant Deaths	4	3.7	3	23.1	1	11.1	8	6.2
Unknown	1	0.9	-	-	-	-	1	0.8
TOTAL	107	100.0	13	100.0	9	100.0	129	100.0

Excludes births <500 grams birthweight.

5.3 Post Neonatal Deaths

There were 71 post-neonatal deaths identified amongst the 1986 livebirths, a proportion of 3.0/1000 livebirths (Table 16 and Table 31).

Post-neonatal mortality for babies of Aboriginal women was 9.8/1000 livebirths which is almost four times the figures of 2.6/1000 for babies of Caucasian women and 2.3/1000 for babies born to women of other races (Table 16, Table 31 and Figure IV).

Post-neonatal deaths in relation to Statistical Divisions of maternal residence are shown in Table 16. It should be noted however, that due to small numbers of births in each country division the proportions do vary from year to year and may be considered unrepresentative.

TABLE 16 : POST-NEONATAL AND INFANT MORTALITY BY STATISTICAL DIVISION OF MATERNAL RESIDENCE AND MATERNAL RACE IN WESTERN AUSTRALIA IN 1986

Statistical Division	Maternal Race												Total			
	Caucasian				Aboriginal				Other				Post neonatal No.	Infant No.		
	Post neonatal No.	Propn	Infant No.	Propn	Post neonatal No.	Propn	Infant No.	Propn	Post neonatal No.	Propn	Infant No.	Propn				
Perth	38	2.6	115	7.9	2	(6.4)	4	12.7	2	(2.0)	8	7.9	42	2.6	127	8.0
Southwest	6	3.1	13	6.6	-	-	1	(20.0)	-	-	-	-	6	2.9	14	6.9
Lower Great Southern	3	(4.1)	5	6.8	1	(28.6)	2	(57.1)	-	-	-	-	4	(5.1)	7	8.9
Upper Great Southern	-	-	3	(7.7)	2	(69.0)	2	(69.0)	-	-	-	-	2	(4.7)	5	11.8
Midlands	2	(2.2)	8	8.7	1	(20.8)	1	(20.8)	-	-	-	-	3	(3.0)	9	9.2
South Eastern	3	(3.6)	5	6.0	2	(18.2)	4	(36.4)	1	(27.0)	1	(27.0)	6	6.1	10	10.2
Central	1	(1.2)	6	7.5	1	(5.8)	3	(17.4)	-	-	3	(83.3)	2	(2.0)	12	11.9
Pilbara	2	(2.5)	6	7.5	1	(7.3)	4	(29.4)	-	-	-	-	3	(2.8)	10	9.3
Kimberley	1	(5.4)	2	(10.7)	2	(5.9)	4	(11.9)	-	-	-	-	3	(5.6)	6	11.2
Outside WA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	56	2.6	163	7.7	12	9.8	25	20.3	3	(2.3)	12	9.2	71	3.0	200	8.4

1 Post-neonatal death proportion/1000 livebirths.

2 Infant death proportion/1000 livebirths.

() Where n<5 proportion has been bracketed.

SOURCE: MIDWIVES' NOTIFICATION SYSTEM
REGISTRAR GENERAL'S OFFICE
CHILD AND COMMUNITY HEALTH SERVICES

5.3.1 Maternal Race and Maternal Age

Overall, 9 of the 71 post neonatal deaths were babies of teenage women, representing a proportion of 5.9/1000 livebirths. Among neonatal deaths of babies born to Aboriginal women however, half were to teenage mothers with a proportion of 15.0/1000 livebirths (Table 17).

TABLE 17 : POST-NEONATAL DEATHS BY MATERNAL RACE AND MATERNAL AGE IN WESTERN AUSTRALIA IN 1986

Maternal Age	Maternal Race									Total		
	Caucasian			Aboriginal			Other			No.	Live Births	Prop ⁿ
	No.	Live Births	Prop ⁿ	No.	Live Births	Prop ⁿ	No.	Live Births	Prop ⁿ			
≤ 15	1	35	28.6	1	42	23.8	-	-	-	2	77	26.0
16	-	104	-	-	48	-	-	3	-	-	155	-
17	-	212	-	-	82	-	-	6	-	-	300	-
18	-	288	-	3	106	28.3	-	7	-	3	401	7.5
19	2	461	4.3	2	121	16.5	-	13	-	4	595	6.7
≤ 19	3	1100	27.3	6	399	15.0	-	29	-	9	1528	5.9
20-24	24	5272	4.5	3	457	6.6	-	240	-	27	5969	4.5
25-29	16	8575	1.9	-	237	-	1	477	2.1	17	9289	1.8
30-34	11	4688	2.3	2	106	18.9	2	389	5.1	15	5183	2.9
35-39	2	1378	1.4	1	25	40.0	-	148	-	3	1551	1.9
40-44	-	143	-	-	5	-	-	17	-	-	165	-
≥ 45	-	6	-	-	1	-	-	1	-	-	8	-
TOTAL	56	21162	2.6	12	1230	9.8	3	1301	2.3	71	23693	3.0

Excludes births <500 grams birthweight.
¹ Proportion/1000 livebirths.

5.3.2 Maternal Race and Conjugal State

Higher proportions of post-neonatal mortality were recorded for babies of single women (8.0/1000) and babies of separated, divorced or widowed women (2.6/1000), than for women socially supported by a male partner in a marriage or defacto relationship. (Table 18).

TABLE 18 : POST-NEONATAL DEATHS BY MATERNAL RACE AND CONJUGAL STATE IN WESTERN AUSTRALIA IN 1986

Conjugal State	Maternal Race									Total		
	Caucasian			Aboriginal			Other			No.	Live Births	Prop ⁿ
	No.	Live Births	Prop ⁿ	No.	Live Births	Prop ⁿ	No.	Live Births	Prop ⁿ			
Single	12	1782	6.7	7	531	13.2	-	60	-	19	2373	8.0
Married/defacto	43	19014	2.3	5	684	7.3	3	1230	2.4	51	20928	2.4
² Other	1	366	2.7	-	15	-	-	11	-	1	392	2.6
TOTAL	56	21162	2.6	12	1230	9.8	3	1301	2.3	71	23693	3.0

Excludes births <500 grams birthweight.

¹ Proportion/1000 livebirths.

² Other includes separated, divorced and widowed.

5.3.3 Maternal Race and Parity

Over one third (36.6%) of babies who died in the post-neonatal period were born to primiparous mothers, and almost half (47.9%) were to women with a parity of 1-2. The proportions for these groups were 2.8/1000 for primiparous women, 2.8/1000 for women with parity 1-2, 4.5/1000 for women with parity 3-4 and 7.3/1000 for women with parity of 5 or more (Table 19).

TABLE 19 : POST-NEONATAL DEATHS BY MATERNAL RACE AND PARITY IN WESTERN AUSTRALIA IN 1986

Parity	Maternal Race									Total		
	Caucasian			Aboriginal			Other			No.	Live Births	Prop ⁿ
	No.	Live Births	Prop ⁿ	No.	Live Births	Prop ⁿ	No.	Live Births	Prop ⁿ			
0	21	8347	2.5	3	359	8.3	2	502	4.0	26	9208	2.8
1 - 2	26	10985	2.4	7	540	13.0	1	668	1.5	34	12193	2.8
3 - 4	9	1662	5.4	-	236	-	-	119	-	9	2017	4.5
> 5	-	168	-	2	95	21.0	-	12	-	2	275	7.3
TOTAL	56	21162	2.6	12	1230	9.7	3	1301	2.3	71	23693	3.0

Excludes births <500 grams birthweight.

¹ Proportion/1000 livebirths.

5.3.4 Maternal Race and Plurality

Examination of the 71 post-neonatal deaths in 1986 by plurality revealed that for singleton births the proportion was 2.9/1000 and for multiple births the proportion was 5.9/1000 livebirths. Among twin babies of Caucasian women the post-neonatal death proportion was 6.4/1000. (Table 20).

TABLE 20 : POST-NEONATAL DEATHS BY MATERNAL RACE AND PLURALITY IN WESTERN AUSTRALIA IN 1986

Plurality	Maternal Race									Total		
	Caucasian			Aboriginal			Other			No.	Live Births	Prop ⁿ
	No.	Live Births	Prop ⁿ	No.	Live Births	Prop ⁿ	No.	Live Births	Prop ⁿ			
Singleton	53	20665	2.6	12	1206	9.9	3	1284	2.3	68	23155	2.9
Twins	3	470	6.4	-	24	-	-	17	-	3	511	5.9
Triplets	-	27	-	-	-	-	-	-	-	-	27	-
TOTAL	56	21162	2.6	12	1230	9.8	3	1301	2.3	71	23693	3.0

Excludes births <500 grams birthweight.

¹ Proportion/1000 livebirths.

5.3.5 Maternal Race and Birthweight

Overall the trend was for post neonatal mortality proportions to increase as birthweight fell. The post-neonatal proportion for low birthweight babies of Aboriginal mothers (36.0/1000) was nearly three times that of the proportion for low birthweight babies of Caucasian women (12.6/1000) (Table 21).

TABLE 21 : POST-NEONATAL MORTALITY BY MATERNAL RACE AND BIRTHWEIGHT DISTRIBUTION IN WESTERN AUSTRALIA IN 1986

Birthweight (grams)	Maternal Race									Total		
	Caucasian			Aboriginal			Other			No.	Live Births	Prop ⁿ
	No.	Live Births	Prop ⁿ	No.	Live Births	Prop ⁿ	No.	Live Births	Prop ⁿ			
500 - 999	2	60	(33.3)	2	11	(181.8)	1	13	(76.9)	5	84	59.5
1000 - 1499	3	118	(25.4)	-	10	-	-	4	-	3	132	(22.7)
1500 - 1999	4	230	(17.4)	-	26	-	-	8	-	4	264	(15.1)
2000 - 2499	5	707	7.1	3	92	(32.6)	1	52	(19.2)	9	851	10.6
< 2500	14	1115	12.6	5	139	36.0	2	77	(26.0)	21	1331	15.8
2500 - 2999	13	3202	4.1	4	266	(15.0)	-	244	-	17	3712	4.6
3000 - 3499	14	8000	1.7	3	470	(6.4)	-	509	-	17	8979	1.9
3500 - 3999	11	6499	1.7	-	268	-	1	356	(2.8)	12	7123	1.7
4000 - 4499	4	2052	(1.9)	-	71	-	-	99	-	4	2222	(1.8)
≥ 4500	-	294	-	-	16	-	-	16	-	-	326	-
TOTAL	56	21162	2.6	12	1230	9.8	3	1301	(2.3)	71	23693	3.0

Excludes births <500 grams birthweight.

¹ Proportion/1000 livebirths.

() Where n<5 proportion has been bracketed.

5.3.6 Causes of Post Neonatal Death

The major cause of post-neonatal deaths in Western Australia continued to be Sudden Infant Death Syndrome (66.2%) (Table 22).

Lethal congenital malformation remained the second biggest cause to which 12 (16.9%) post-neonatal deaths were attributed. The percentage of post-neonatal deaths due to infection has decreased from 15.6% in 1985 to 8.4% in 1986. This decrease was a reflection of the percentage of post-neonatal deaths among babies of Aboriginal women being 3 deaths (25.0%) in 1986 compared with 9 deaths (47.4%) in 1985 attributed to infection (Table 22).

TABLE 22 : CAUSE OF POST-NEONATAL DEATH BY MATERNAL RACE IN WESTERN AUSTRALIA IN 1986

Cause of Death	Maternal Race						Total		Total 1985	
	Caucasian		Aboriginal		Other		No.	%	No.	%
	No.	%	No.	%	No.	%				
Sudden Infant Death Syndrome	40	71.4	6	50.0	1	33.3	47	66.2	33	42.9
Lethal Congenital Malformation	10	17.8	1	8.3	1	33.3	12	16.9	23	29.9
Infection - Respiratory	2	3.6	3	25.0	-	-	5	7.0	8	10.4
Meningitis	-	-	-	-	-	-	-	-	2	2.6
Other	1	1.8	-	-	-	-	1	1.4	2	2.6
Other	3	5.3	1	8.3	1	33.3	5	7.0	9	11.7
Unknown	-	-	1	8.3	-	-	1	1.4	-	-
TOTAL	56	100.0	12	100.0	3	100.0	71	100.0	77	100.0

Excludes births <500 grams birthweight.

5.3.7 Seasonal Incidence of Post Neonatal Deaths

Examination of the causes of post-neonatal death by months of the year during which these deaths occurred confirms that most Sudden Infant Deaths (31 babies, 66.0%), were observed during the cooler months from April to September. Deaths among babies with lethal congenital malformations also were more numerous during this time (Table 23).

TABLE 23 : CAUSE OF POST-NEONATAL DEATH BY SEASONAL INCIDENCE IN WESTERN AUSTRALIA IN 1986

Cause of Death	Jan - Mar		Apr - Jun		Jul - Sep		Oct - Dec		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
Sudden Infant Death Syndrome	6	50.0	13	61.9	18	72.0	10	76.9	47	66.2
Lethal Congenital Malformation	1	8.3	4	19.0	6	24.0	1	7.7	12	16.9
Infection	4	33.3	1	4.8	-	-	1	7.7	6	8.4
Other/Unknown	1	8.3	3	14.3	1	4.0	1	7.7	6	8.4
TOTAL	12	100.0	21	100.0	25	100.0	13	100.0	71	100.0

Excludes births <500 grams birthweight.

SOURCE: MIDWIVES' NOTIFICATION SYSTEM
REGISTRAR GENERAL'S OFFICE

6. PERINATAL MORTALITY IN WESTERN AUSTRALIA IN THE 1986 BIRTH COHORT

6.1 Perinatal Mortality

There were 275 perinatal deaths identified in the 1986 birth cohort which gave a perinatal mortality proportion of 11.5/1000 total births (Table 4 and Table 24). This compared with a proportion of 11.9/1000 in 1985. Among babies born to Aboriginal women the proportion (23.3/1000) was more than double that for perinatal deaths of babies of Caucasian women (10.8/1000) and almost twice that for perinatal deaths of babies born to women of other races (12.2/1000) (Table 24).

TABLE 24 : STILLBIRTHS, NEONATAL AND PERINATAL MORTALITY BY MATERNAL RACE IN WESTERN AUSTRALIA IN 1986

Type of Death	Maternal Race						Total	
	Caucasian		Aboriginal		Other		No.	Prop ⁿ
	No.	Prop ⁿ	No.	Prop ⁿ	No.	Prop ⁿ		
Stillbirth/1000								
Total Births	123	5.8	16	12.8	7	5.3	146	6.1
Neonatal/1000								
Livebirths	107	5.0	13	10.6	9	6.9	129	5.4
Perinatal/1000								
Total Births	230	10.8	29	23.3	16	12.2	275	11.5

Excludes births <500 grams birthweight.

Perinatal deaths in relation to Statistical Divisions of maternal residence are shown in Table 4. It should be noted however, that due to small numbers of births in each country division the proportions do vary on an annual basis. An example of this is for the Kimberley Division where the proportion of perinatal mortality reduced from 13 deaths (25.3/1000) in 1985 to 7 deaths (13.0/1000) in 1986 (Table 4).

6.2 Maternal Race and Maternal Age

Perinatal mortality is lowest for babies of women aged 20-24 years, (10.2/1000 total births) and the risk increases toward the extremes of the fertile age group.

Twenty two (14.3/1000) perinatal deaths were among babies of women in their teenage years. Another 24 (13.7/1000) perinatal deaths were among babies of women 35 years or older. (Table 25).

TABLE 25 : PERINATAL DEATHS BY MATERNAL RACE AND MATERNAL AGE IN WESTERN AUSTRALIA IN 1986

Maternal Age	Maternal Race						Total					
	Caucasian			Aboriginal			Other					
	No.	Total	Prop ⁿ	No.	Total	Prop ⁿ	No.	Total	Prop ⁿ	No.	Total	Prop ⁿ
	Births			Births			Births			Births		
≤ 15	-	35	-	2	43	46.5	-	-	-	2	78	25.6
16	-	104	-	2	49	40.8	-	3	-	2	156	12.8
17	5	213	23.5	-	82	-	-	6	-	5	301	16.6
18	3	291	10.3	2	107	18.7	1	8	125.0	6	406	14.8
19	5	464	10.8	2	122	16.4	-	13	-	7	599	11.7
≤ 19	13	1107	11.7	8	403	19.8	1	30	33.3	22	1540	14.3
20-24	51	5296	9.6	9	463	19.4	1	240	4.2	61	5999	10.2
25-29	92	8620	10.7	5	239	20.9	7	480	14.6	104	9339	11.1
30-34	54	4720	11.4	4	108	37.0	6	392	15.3	64	5220	12.3
35-39	20	1393	14.4	3	27	111.1	-	148	-	23	1568	14.7
40-44	-	143	-	-	5	-	1	17	58.8	1	165	6.1
≥ 45	-	6	-	-	1	-	-	1	-	-	8	-
TOTAL	230	21285	10.8	29	1246	23.3	16	1308	12.2	275	23839	11.5

Excludes births <500 grams birthweight.

¹ Proportion/1000 total births.

6.3 Maternal Race and Parity

The perinatal mortality proportion to primiparous women was 12.2/1000 and the proportion for babies born to women with a parity of 1 to 2 was 10.5/1000. The highest proportion of perinatal deaths (72.2/1000) was recorded among babies of Aboriginal women with a parity of five or more (Table 26).

TABLE 26 : PERINATAL DEATHS BY MATERNAL RACE AND PARITY IN WESTERN AUSTRALIA IN 1986

Parity	Maternal Race									Total		
	Caucasian			Aboriginal			Other			No.	Total Births	Prop ⁿ
	No.	Total Births	Prop ⁿ	No.	Total Births	Prop ⁿ	No.	Total Births	Prop ⁿ			
0	100	8399	11.9	7	363	19.3	6	506	11.9	113	9268	12.2
1 - 2	107	11040	9.7	12	547	21.9	10	671	14.9	129	12258	10.5
3 - 4	21	1677	12.5	3	239	12.5	-	119	-	24	2035	11.8
≥ 5	2	169	11.8	7	97	72.2	-	12	-	9	278	32.4
TOTAL	230	21285	10.8	29	1246	23.3	16	1308	12.2	275	23839	11.5

Excludes births <500 grams birthweight.

¹ Proportion/1000 total births.

6.4 Maternal Race and Birthweight

As in the 1985 birth cohort, almost two thirds of all perinatal deaths 180 (125.8/1000) were babies of low birthweight (<2500 grams).

In general terms the perinatal mortality in all racial groups increased as birthweight fell, the exception being for babies in >4000 gram categories. Proportions in races other than for babies of Caucasian women are based on small numbers and therefore statistically unreliable. The optimal birthweight for babies' survival was between 3000-4000 grams. (Table 27).

TABLE 27 : PERINATAL DEATHS BY MATERNAL RACE AND BIRTHWEIGHT DISTRIBUTION IN WESTERN AUSTRALIA IN 1986

Birthweight (grams)	Maternal Race									Total		
	Caucasian			Aboriginal			Other			No.	Total	Prop ⁿ
	No.	Total	Prop ⁿ	No.	Total	Prop ⁿ	No.	Total	Prop ⁿ			
500 - 999	85	107	794.4	7	15	466.7	7	15	466.7	99	137	722.6
1000 - 1499	29	133	218.0	2	12	(166.7)	2	6	(333.3)	33	151	218.5
1500 - 1999	20	239	83.7	4	27	(148.1)	1	9	(111.1)	25	275	90.9
2000 - 2499	23	724	31.8	-	92	-	-	52	-	23	868	26.5
< 2500	157	1203	130.5	13	146	89.0	10	82	121.9	180	1431	125.8
2500 - 2999	26	3212	8.1	6	269	22.3	-	244	-	32	3725	8.6
3000 - 3499	23	8012	2.9	3	472	(6.4)	3	510	(5.9)	29	8994	3.2
3500 - 3999	15	6506	2.3	4	269	(14.9)	3	357	(8.4)	22	7132	3.1
4000 - 4499	7	2056	3.4	1	72	(13.9)	-	99	-	8	2227	3.6
≥ 4500	2	296	(6.8)	1	17	(58.8)	-	16	-	3	329	(9.1)
Unknown	-	-	-	1	1	-	-	-	-	1	1	-
TOTAL	230	21285	10.8	29	1246	23.3	16	1308	12.2	275	23839	11.5

Excludes births <500 grams birthweight.

¹ Proportion/1000 total births.

() Where n<5 proportion has been bracketed.

6.5 Maternal Race and Babies Sex

There were 143 (11.6/1000) male and 131 (11.4/1000) female perinatal deaths among those babies born in 1986. There was one additional stillborn baby of indeterminate sex.

Among babies born to Caucasian women the perinatal death proportion for males (11.4/1000) was higher than for the perinatal death proportion for females (10.0/1000). For babies of Aboriginal women the perinatal death proportion for males (20.3/1000) was lower than the perinatal death proportion for females (25.9/1000). The proportion of perinatal deaths among male babies of women of other races (6.9/1000) was lower than the perinatal death proportion for females (18.7/1000) (Table 28).

TABLE 28 : PERINATAL DEATHS BY MATERNAL RACE AND SEX IN WESTERN AUSTRALIA IN 1986

Sex	Maternal Race									Total		
	Caucasian			Aboriginal			Other			No.	Total	Prop ⁿ
	No.	Total	Prop ⁿ	No.	Total	Prop ⁿ	No.	Total	Prop ⁿ			
Male	126	11010	11.4	12	591	20.3	5	721	6.9	143	12322	11.6
Female	103	10274	10.0	17	655	25.9	11	587	18.7	131	11516	11.4
Indeterminate	1	1	-	-	-	-	-	-	-	1	1	-
TOTAL	230	21285	10.8	29	1246	23.3	16	1308	12.2	275	23839	11.5

Excludes births <500 grams birthweight.

¹ Proportion/1000 total births.

6.6 Maternal Race and Conjugal State

One eighth (14.7/1000) of perinatal deaths were among babies of women reported as socially unsupported by a male partner (Table 29). Although this represents a decline of 3% since the 1985 cohort report, the increased social acceptance of defacto relationships may have influenced reporting.

TABLE 29 : PERINATAL DEATHS BY MATERNAL RACE AND CONJUGAL STATE IN WESTERN AUSTRALIA IN 1986

Conjugal State	Maternal Race									Total		
	Caucasian			Aboriginal			Other			No.	Total	Prop ⁿ
	No.	Total	Prop ⁿ	No.	Total	Prop ⁿ	No.	Total	Prop ⁿ			
Single	24	1794	13.4	9	536	16.8	1	61	16.4	34	2391	14.2
Married/defacto	200	19122	10.5	20	695	28.8	14	1236	11.3	234	21053	11.1
² Other	6	369	16.3	-	15	-	1	11	90.9	7	395	17.7
TOTAL	230	21285	10.8	29	1246	23.3	16	1308	12.2	275	23839	11.5

Excludes births <500 grams birthweight.

¹ Proportion/1000 total births.

² Other includes separated, divorced and widowed.

7. INFANT MORTALITY IN WESTERN AUSTRALIA IN THE 1986 BIRTH COHORT

7.1 Infant Deaths

There were 200 infant deaths identified amongst the 23,693 livebirths in 1986 (Table 16). Of these, 129 were neonatal deaths and 71 were post-neonatal deaths. The infant mortality proportion for Western Australia in 1986 was 8.4/1000 livebirths (Table 16 and Table 30).

Infant mortality among babies born to Aboriginal women (20.3/1000) was almost three times that for babies born to non-Aboriginal women (Table 42, Figure V). The difference between these groups has been reduced from 18.9/1000 in 1985 to 12.5/1000 in 1986.

7.2 Maternal Race and Maternal Age

Babies of teenage women are at greatest risk of dying within 12 months of birth (12.4/1000). Infant mortality for babies of Aboriginal teenage mothers (25.1/1000) was three times greater than for babies of Caucasian teenage mothers (8.2/1000) (Table 30).

TABLE 30 : INFANT DEATHS BY MATERNAL RACE AND MATERNAL AGE IN WESTERN AUSTRALIA IN 1986

Maternal Age	Maternal Race									Total		
	Caucasian			Aboriginal			Other			No.	Live-	Prop ⁿ
	No.	Live-	Prop ⁿ	No.	Live-	Prop ⁿ	No.	Live-	Prop ⁿ			
≤ 15	1	35	28.6	2	42	47.6	-	-	-	3	77	39.0
16	-	104	-	1	48	20.8	-	3	-	1	155	6.4
17	4	212	18.9	-	82	-	-	6	-	4	300	13.3
18	-	288	-	4	106	37.7	-	7	-	4	401	10.0
19	4	461	8.7	3	121	24.8	-	13	-	7	595	11.8
≤ 19	9	1100	8.2	10	399	25.1	-	29	-	19	1528	12.4
20-24	51	5272	9.7	6	457	13.1	1	240	4.2	58	5969	9.7
25-29	63	8575	7.3	3	237	12.6	5	477	10.5	71	9289	7.6
30-34	33	4688	7.0	4	106	37.7	5	389	12.8	42	5183	8.1
35-39	7	1378	5.1	2	25	80.0	-	148	-	9	1551	5.8
40-44	-	143	-	-	5	-	1	17	58.8	1	165	6.1
≥ 45	-	6	-	-	1	-	-	1	-	-	8	-
TOTAL	163	21162	7.7	25	1230	20.3	12	1301	9.2	200	23693	8.4

Excludes births <500 grams birthweight.

¹ Proportion/1000 livebirths.

7.3 Maternal Race and Conjugal State

The infant mortality proportion (14.7/1000) among babies born to single women is greater than the proportion for babies of women in a marriage or defacto relationship (7.6/1000). However, among babies born to Aboriginal women the proportions of infant mortality for babies of single women (20.7/1000) and babies of married/defacto women (20.5/1000) showed little difference (Table 31).

TABLE 31 : INFANT DEATHS BY MATERNAL RACE AND CONJUGAL STATE IN WESTERN AUSTRALIA IN 1986

Conjugal State	Maternal Race									Total		
	Caucasian			Aboriginal			Other			No. Live- Births	Prop ⁿ	Prop ⁿ
	No.	Live- Births	Prop ⁿ	No.	Live- Births	Prop ⁿ	No.	Live- Births	Prop ⁿ			
Single	24	1782	13.5	11	531	20.7	-	60	-	35	2373	14.7
Married/defacto	135	19014	7.1	14	684	20.5	11	1230	8.9	160	20928	7.6
Other	4	366	10.9	-	15	-	1	11	90.9	5	392	12.7
TOTAL	163	21162	7.7	25	1230	20.3	12	1301	9.2	200	23693	8.4

Excludes births <500 grams birthweight.

¹ Proportion/1000 livebirths.

² Other includes separated, divorced and widowed.

7.4 Maternal Race and Parity

The highest proportion of infant deaths (29.1/1000) was among babies of women whose parity was five or more. Seven of these infant deaths were babies of Aboriginal mothers raising their proportion to 73.7/1000 livebirths (Table 32).

TABLE 32 : INFANT DEATHS BY MATERNAL RACE AND PARITY IN WESTERN AUSTRALIA IN 1986

Parity	Maternal Race									Total		
	Caucasian			Aboriginal			Other			No.	Live-	Prop ⁿ
	No.	Live-	Prop ⁿ	No.	Live-	Prop ⁿ	No.	Live-	Prop ⁿ			
0	69	8347	8.3	6	359	16.7	4	502	8.0	79	9208	8.6
1 - 2	78	10985	7.1	12	540	22.2	8	668	12.0	98	12193	8.0
3 - 4	15	1662	9.0	-	236	-	-	119	-	15	2017	7.4
≥ 5	1	168	5.9	7	95	73.7	-	12	-	8	275	29.1
TOTAL	163	21162	7.7	25	1230	20.3	12	1301	9.2	200	23693	8.4

Excludes births <500 grams birthweight.
 1 Proportion/1000 livebirths.

7.5 Maternal Race and Plurality

Infant mortality for multiple births (42.7/1000) was almost six times the proportion for singleton births (7.6/1000). For babies of Aboriginal mothers, the infant death proportion (83.3/1000) for twins was twice that for twin babies born to Caucasian women (40.4/1000) (Table 33).

TABLE 33 : INFANT DEATHS BY MATERNAL RACE AND PLURALITY IN WESTERN AUSTRALIA IN 1986

Plurality	Maternal Race									Total		
	Caucasian			Aboriginal			Other			No.	Live-	Prop ⁿ
	No.	Live-	Prop ⁿ	No.	Live-	Prop ⁿ	No.	Live-	Prop ⁿ			
Singleton	143	20665	6.9	23	1206	19.1	11	1284	8.6	177	23155	7.6
Twins	19	470	40.4	2	24	83.3	1	17	58.8	22	511	43.0
Triplets	1	27	37.0	-	-	-	-	-	-	1	27	37.0
TOTAL	163	21162	7.7	25	1230	20.3	12	1301	9.2	200	23693	8.4

Excludes births <500 grams birthweight.
 1 Proportion/1000 livebirths.

Infant deaths were proportionately 10.2/1000 male and 6.5/1000 female. Among babies born to Caucasian women the infant death proportion for males (9.8/1000) was higher than the infant death proportion for females (5.5/1000). For babies of Aboriginal mothers the infant death proportion for males (22.2/1000) was also higher than the infant death proportion for females (18.6/1000). However, for infants of women of other races the infant death proportion for males (6.9/1000) was lower than the infant death proportion for females (12.0/1000) (Table 34).

TABLE 34: INFANT DEATHS BY MATERNAL RACE AND SEX IN WESTERN AUSTRALIA IN 1986

Sex	Maternal Race									Total		
	Caucasian			Aboriginal			Other			No.	Live-	Prop ⁿ
	No.	Live-	Prop ⁿ	No.	Live-	Prop ⁿ	No.	Live-	Prop ⁿ			
Male	107	10952	9.8	13	585	22.2	5	719	6.9	125	12256	10.2
Female	56	10210	5.5	12	645	18.6	7	582	12.0	75	11437	6.5
TOTAL	163	21162	7.7	25	1230	20.3	12	1301	9.2	200	23693	8.4

Excludes births <500 grams birthweight.

¹ Proportion/1000 livebirths.

7.7 Maternal Race and Birthweight

Low birthweight (less than 2500 grams) babies comprised half of all infant deaths. A proportion of 70.6/1000 livebirths was recorded for low birthweight babies. Babies with birthweight of 3000-3499 grams showed higher chance of survival with an infant mortality proportion of 3.4/1000. There was minimal difference in infant mortality proportions of low birthweight babies between racial groups. (Table 35).

TABLE 35 : INFANT MORTALITY BY MATERNAL RACE AND BIRTHWEIGHT DISTRIBUTION IN WESTERN AUSTRALIA IN 1986

Birthweight (grams)	Maternal Race									Total		
	Caucasian			Aboriginal			Other			No.	Live Births	Prop ⁿ
	No.	Live Births	Prop ⁿ	No.	Live Births	Prop ⁿ	No.	Live Births	Prop ⁿ			
500 - 999	40	60	666.7	5	11	454.5	6	13	461.5	51	84	607.1
1000 - 1499	17	118	144.1	-	10	-	-	4	-	17	132	128.8
1500 - 1999	15	230	65.2	3	26	(115.4)	-	8	-	18	264	68.2
2000 - 2499	11	707	15.6	3	92	(32.6)	1	52	(19.2)	15	851	17.6
< 2500	83	1115	74.4	11	139	79.1	7	77	90.9	101	1331	75.9
2500 - 2999	29	3202	9.1	7	266	26.3	-	244	-	36	3712	9.7
3000 - 3499	25	8000	3.1	4	470	(8.5)	2	509	(3.9)	31	8979	3.4
3500 - 3999	19	6499	2.9	3	268	(11.2)	3	356	(8.4)	25	7123	3.5
4000 - 4499	7	2052	3.4	-	71	-	-	99	-	7	2222	3.1
≥ 4500	-	294	-	-	16	-	-	16	-	-	326	-
TOTAL	163	21162	7.7	25	1230	20.3	12	1301	9.2	200	23693	8.4

Excludes births <500 grams birthweight.

(1) Proportion/1000 livebirths.

() Where n<5 proportion has been bracketed.

7.8 Maternal Race and Age at Infant Death

Almost two thirds (64.5%) of infant deaths occurred in the neonatal period, with most (95.0%) deaths occurring within 24 weeks of birth.(Table 36).

TABLE 36: INFANT DEATHS BY MATERNAL RACE AND AGE AT DEATH IN WESTERN AUSTRALIA IN 1986

Age at Death in Weeks	Maternal Race						Total	
	Caucasian		Aboriginal		Other		No.	%
	No.	%	No.	%	No.	%		
1 - 4 weeks	107	65.6	13	52.0	9	75.0	129	64.5
5 - 8 weeks	17	10.4	2	8.0	1	16.7	21	10.5
9 -12 weeks	9	5.5	4	16.0	1	8.3	14	7.0
13-16 weeks	9	5.5	2	8.0	-	-	11	5.5
17-20 weeks	13	8.0	-	-	-	-	13	6.5
18-24 weeks	2	1.2	-	-	-	-	2	1.0
25-52 weeks	6	3.7	4	16.0	-	-	10	5.0
TOTAL	163	100.0	25	100.0	12	100.0	200	100.0

Excludes births <500 grams birthweight.

Proportion/1000 livebirths

The major causes of infant deaths remain lethal congenital malformations for 69 (34.5%) babies, Sudden Infant Death Syndrome for 55 (27.0%) and low birthweight (<2500 grams) for 50 (25.0%) babies. Infection remained a significant cause of Aboriginal infant mortality among babies of Aboriginal mothers (Table 37).

TABLE 37 : CAUSE OF INFANT DEATHS AND MATERNAL RACE IN WESTERN AUSTRALIA IN 1986

Cause of Death	Maternal Race						Total	
	Caucasian		Aboriginal		Other		No.	%
	No.	%	No.	%	No.	%		
Lethal Congenital Malformation	57	35.0	8	32.0	4	33.3	69	34.5
Low Birthweight (<2500 grams)	45	27.6	3	12.0	2	16.7	50	25.0
Asphyxia	5	3.1	-	-	1	8.3	6	3.0
Pregnancy conditions	1	0.6	-	-	1	8.3	2	1.0
Infections	3	1.8	3	12.0	-	-	6	3.0
Hydrops Fetalis	2	1.2	-	-	1	8.3	3	1.5
Other	5	3.1	1	4.0	1	8.3	7	3.5
Sudden Infant Deaths	44	27.0	9	36.0	2	16.7	55	27.5
Unknown	1	0.6	1	4.0	-	-	2	1.0
TOTAL	163	100.0	25	100.0	12	100.0	200	100.0

Excludes births <500 grams birthweight.

TABLE 38 : PERINATAL AND INFANT MORTALITY BY MATERNAL AGE PLURALITY AND SEX IN WESTERN AUSTRALIA IN 1986

	Perinatal Mortality				Infant Mortality							
	Aboriginal		Non-Aboriginal		Aboriginal		Non-Aboriginal		Total			
	No. Births	Prop ⁿ	No. Births	Prop ⁿ	No. Births	Prop ⁿ	No. Births	Prop ⁿ				
Maternal Age <15	2	43 (46.5)	-	35 -	2	78 (25.6)	2	42 (47.6)	1	35 (28.6)	3	77 (39.0)
16-19	6	360 16.7	14	1102 12.7	20	1462 13.7	8	357 22.4	8	1094 7.3	16	1451 11.0
20-29	14	702 19.9	151	14636 10.3	165	15338 10.7	9	694 13.0	120	14564 8.2	129	15258 8.4
30-39	7	135 51.8	80	6653 12.0	87	6788 12.8	6	131 45.8	45	6603 6.8	51	6734 7.6
>40	-	6 -	1	167 (6.0)	1	173 (5.8)	-	6 -	1	167 (6.0)	1	173 (5.8)
Plurality Singleton	27	1222 22.1	217	22068 9.8	244	23290 10.5	23	1206 19.1	154	21949 7.0	177	23155 7.6
Multiple	2	24 (83.3)	29	525 55.2	31	549 56.5	2	24 (83.3)	21	514 40.9	23	538 42.7
Sex Male	12	591 20.3	131	11731 11.2	143	12322 11.6	13	585 22.2	112	11671 9.6	125	12256 10.2
Female	17	655 25.9	114	10861 10.5	131	11516 11.4	12	645 18.6	63	10792 5.8	75	11437 6.5

Excludes births <500 grams birthweight.

- 1 Perinatal death proportion/1000 total births.
 - 2 Infant death proportion/1000 livebirths.
- () Where n<5 proportion has been bracketed.

Type of Death	Maternal Race						Total	
	Caucasian		Aboriginal		Other		No.	Prop ⁿ
	No.	Prop ⁿ	No.	Prop ⁿ	No.	Prop ⁿ		
Neonatal/ 1000 Livebirths	107	5.0	13	10.6	9	6.9	129	5.4
Post-Neonatal/ 1000 Livebirths	56	2.6	12	9.7	3	2.3	71	3.0
Infant/ 1000 Livebirths	163	7.7	25	20.3	12	9.2	200	8.4

Excludes births <500 grams birthweight.

8. BIRTHS, PERINATAL AND INFANT MORTALITY IN WESTERN AUSTRALIA, 1980-1986

8.1 Crude Birth Rates and Total Births, 1980-1986

The crude birth rate for Western Australia has remained relatively stable from 1980 to 1986, at between 16.2/1000 livebirths and 16.9/1000 livebirths.

Consideration of racial groups shows similar stable trends. The crude birth rate among Aboriginal women (31.3/1000 livebirths) in 1986, showed little change from 1985 (31.6/1000 livebirths). Among non-Aboriginal women the crude birth rate was 15.8/1000 livebirths in both 1980 and 1986. (Table 40, Figure VI).

TABLE 40 : CRUDE BIRTH RATES FOR ABORIGINAL AND NON-ABORIGINAL WESTERN AUSTRALIAN BIRTHS, 1980-1986

Year	Aboriginal			Non-Aboriginal			Total		
	Live-Births	Pop ⁿ	Crude Birth Rate	Live-Births	Pop ⁿ	Crude Birth Rate	Live-Births	Pop ⁿ	Crude Birth Rate
1980	1029	32598	31.6	19595	1236470	15.8	20624	1269068	16.2
1981	1093	33547	32.6	20948	1266509	16.5	22041	1300056	16.9
1982	1113	34552	32.2	21071	1304347	16.1	22184	1338899	16.6
1983	1135	35464	32.0	21737	1333586	16.3	22872	1369050	16.7
1984	1176	36724	32.0	21607	1354513	15.9	22783	1391237	16.4
1985	1235	37992	32.5	21903	1380572	15.9	23138	1418564	16.3
1986	1230	39285	31.3	22463	1419734	15.8	23693	1459019	16.2

SOURCE : MIDWIVES' NOTIFICATION SYSTEM
 AUSTRALIAN BUREAU OF STATISTICS - Cat. No. 3201.0.
 CHILD AND COMMUNITY HEALTH SERVICES - Aboriginal population data.

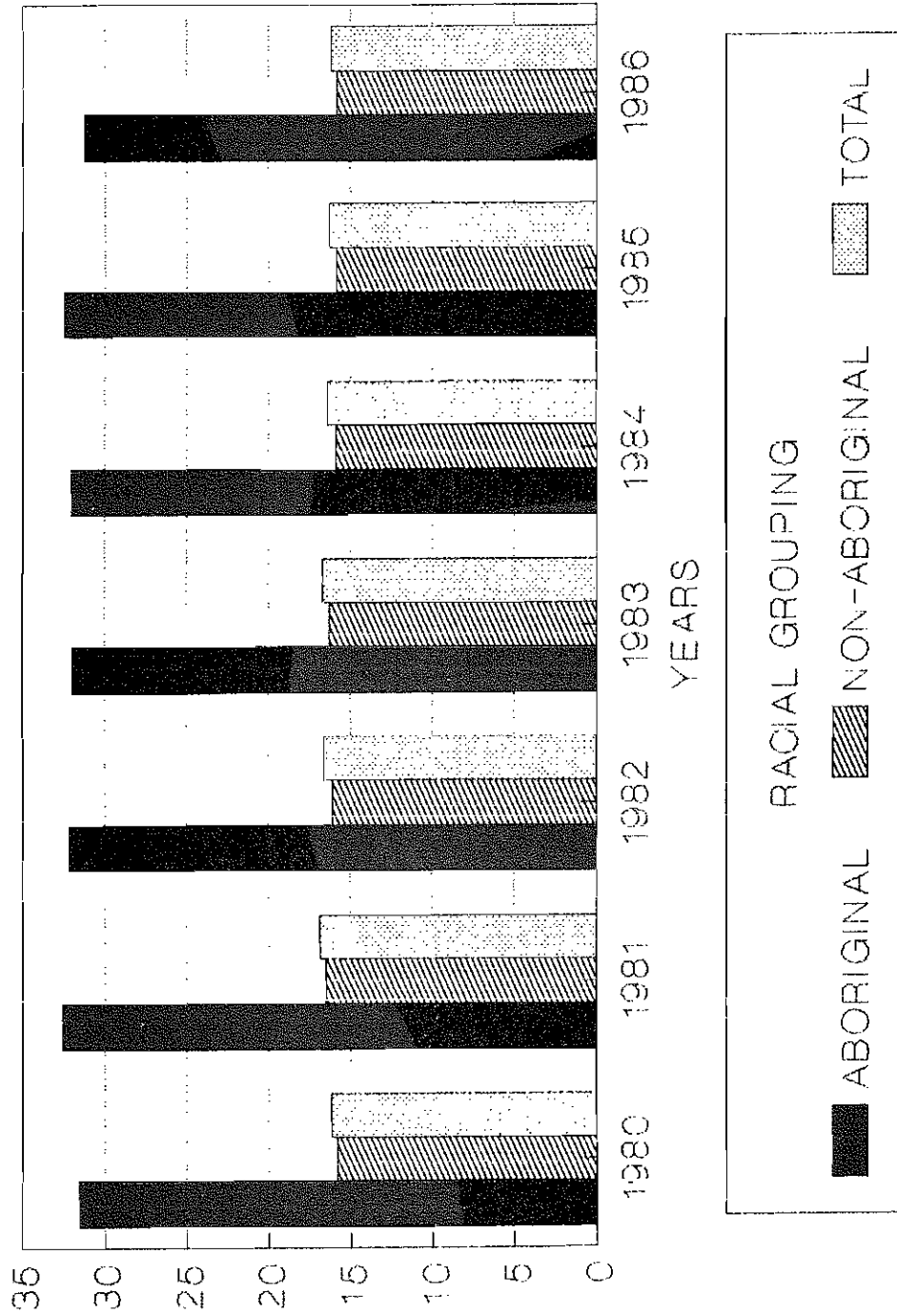
8.2.1 Stillbirths, Neonatal and Perinatal Mortality, 1980-1986

Western Australian stillbirth proportions showed a general downward trend from 7.5/1000 total births in 1980 to 6.1/1000 in 1986 (Table 41).

Consideration of stillbirth proportions and racial groups showed stillbirths among babies of non-Aboriginal women followed this trend while the proportions decreased from 7.2/1000 in 1980 to 5.7/1000 in 1986. Among babies of Aboriginal women, stillbirth proportions were less consistent in their decline and remained approximately double the proportion for stillbirths among babies of non-Aboriginal women (Table 41).

FIGURE VI

CRUDE BIRTH RATES AND RACIAL GROUPING FOR WESTERN AUSTRALIAN BIRTHS, 1980-1986



Excludes births less than 500 grams birthweight.

SOURCE : MIDWIVES' NOTIFICATION SYSTEM
 AUSTRALIAN BUREAU OF STATISTICS
 COMMUNITY AND CHILD HEALTH SERVICES

TABLE 41 : STILLBIRTHS, NEONATAL AND PERINATAL MORTALITY FOR ABORIGINAL AND NON-ABORIGINAL BIRTHS IN WESTERN AUSTRALIA 1980-1986

Year	Stillbirths			Neonatal Deaths			Perinatal Deaths		
	Aboriginal	Non-Aboriginal	Total	Aboriginal	Non-Aboriginal	Total	Aboriginal	Non-Aboriginal	Total
	No. (1)	No. (1)	No. (1)	No. (2)	No. (2)	No. (2)	No. (3)	No. (3)	No. (3)
1980	12	143	155	21	104	125	33	247	280
	11.5	7.2	7.5	20.4	5.3	6.1	31.7	12.5	13.5
1981	22	131	153	15	103	118	37	234	271
	19.7	6.2	6.9	13.7	4.9	5.4	33.2	11.1	12.2
1982	16	139	155	17	101	118	33	240	273
	14.2	6.6	6.9	15.3	4.8	5.3	29.2	11.3	12.2
1983	14	143	157	11	97	108	25	240	265
	12.2	6.5	6.8	9.7	4.5	4.7	21.8	11.0	11.5
1984	16	118	134	15	101	116	31	219	250
	13.4	5.4	5.8	12.8	4.7	5.1	26.0	10.1	10.9
1985	14	136	150	13	96	109	27	232	259
	11.2	6.2	6.4	10.5	4.4	4.7	21.6	10.5	11.1
1986	16	130	146	13	116	129	29	246	275
	12.8	5.7	6.1	10.6	5.2	5.4	23.3	10.9	11.5

Excludes births < 500 grams birthweight.

1980-1983 based on year of death.

1984-1986 based on year of birth.

(1) Stillbirth Proportions/1000 total births.

(2) Neonatal Death Proportion/1000 livebirths.

(3) Perinatal Death Proportion/1000 total births.

SOURCE : MIDWIVES' NOTIFICATION SYSTEM
REGISTRAR GENERAL'S OFFICE
CHILD AND COMMUNITY HEALTH SERVICES

The neonatal mortality proportion for babies born to Aboriginal women remained much higher than the neonatal mortality proportion for babies born to non-Aboriginal women, but the gap reduced.

The proportion of neonatal mortality among babies of Aboriginal women reduced by half during the seven year period from 1980-1986, the proportions was 20.4/1000 livebirths in 1980 and reduced to 10.6/1000 livebirths in 1986. For babies of non-Aboriginal women, neonatal mortality proportions ranged between 4.4/1000 in 1985 and 5.3/1000 over the same seven year period (Table 41, Figure IX).

8.2.3 Perinatal Mortality

Comparison of perinatal mortality for 1984, 1985 and 1986, the three years where the birth cohort method was employed, showed that the overall proportion has increased from 10.9/1000 total births in 1984 and 11.1/1000 total births in 1985 to 11.5/1000 in 1986. An overall reduction of 2.0/1000 (13.5 in 1980 to 11.5 in 1986) occurred over seven years. It was apparent that a reduction in the perinatal mortality among babies of Aboriginal women from 33.2/1000 in 1981 to 23.3/1000 in 1986, was greater than among babies born to non-Aboriginal women (Table 41).

8.3 Neonatal, Post-neonatal and Infant Mortality, 1980-1986

Over the seven year period from 1980 to 1986 neonatal, post-neonatal and infant mortality proportions reduced in Western Australia.

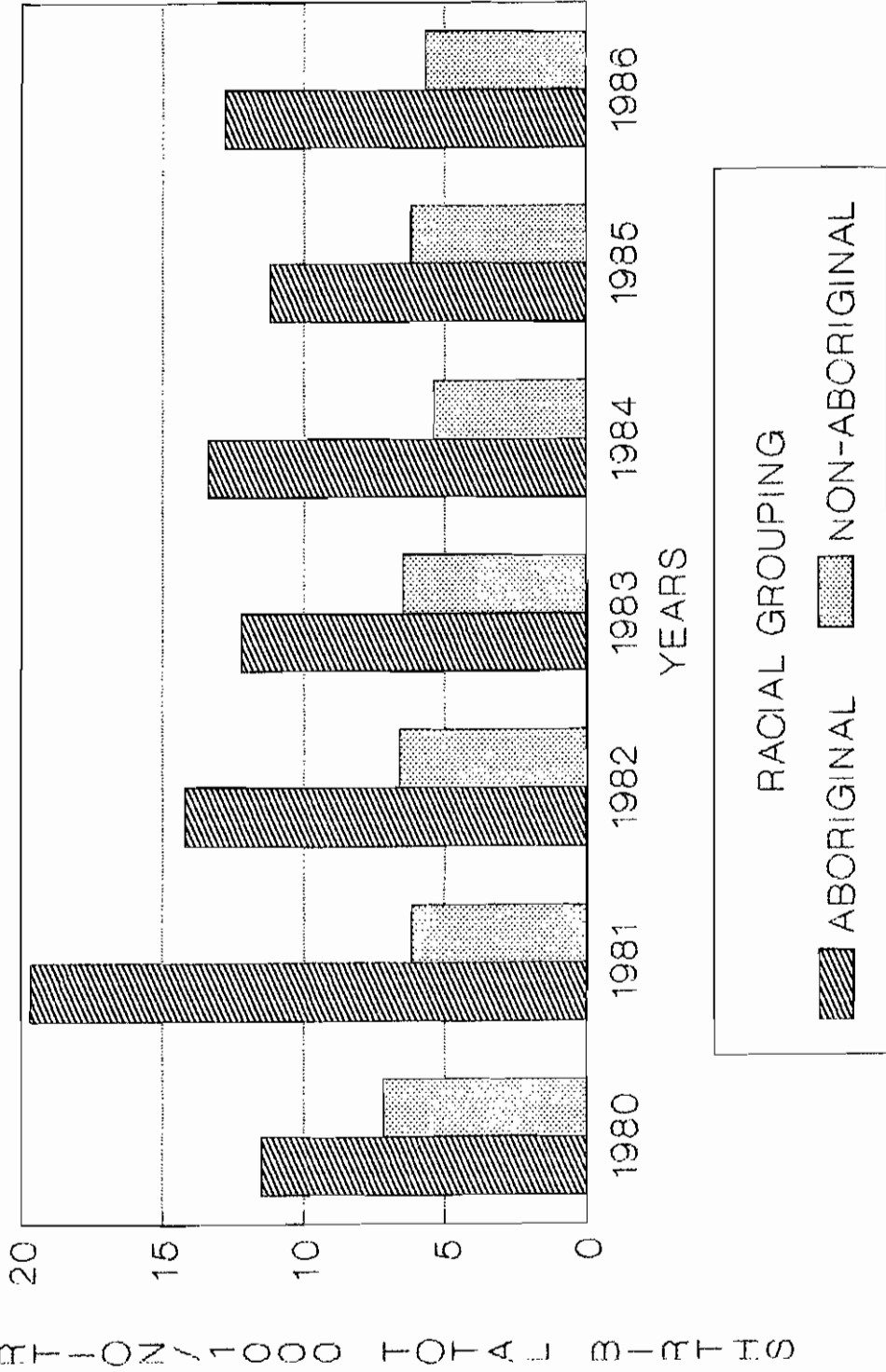
The neonatal mortality proportion reduced from 6.1/1000 in 1980 to 5.4/1000 in 1986. Proportions for post-neonatal deaths reduced from 3.2/1000 in 1980 to 3.0/1000 in 1986, and infant mortality proportions reduced from 9.3/1000 in 1980 to 8.4/1000 in 1986.

Among babies of Aboriginal women a reduction in infant mortality from 31.1/1000 in 1980 to 20.3/1000 in 1986 was shown (Table 42).

Infant death proportions among babies of Aboriginal women at well over double the proportion for babies of non-Aboriginal women, should be noted for the differences in age at death (Table 36) and the cause of death (Table 37). The incidence of deaths of babies born to Aboriginal women during the postneonatal period was greater than among deaths of babies of non-Aboriginal women.

FIGURE VII

STILLBIRTH PROPORTIONS AND RACIAL GROUPING OF BIRTHS IN WA. 1980-86.

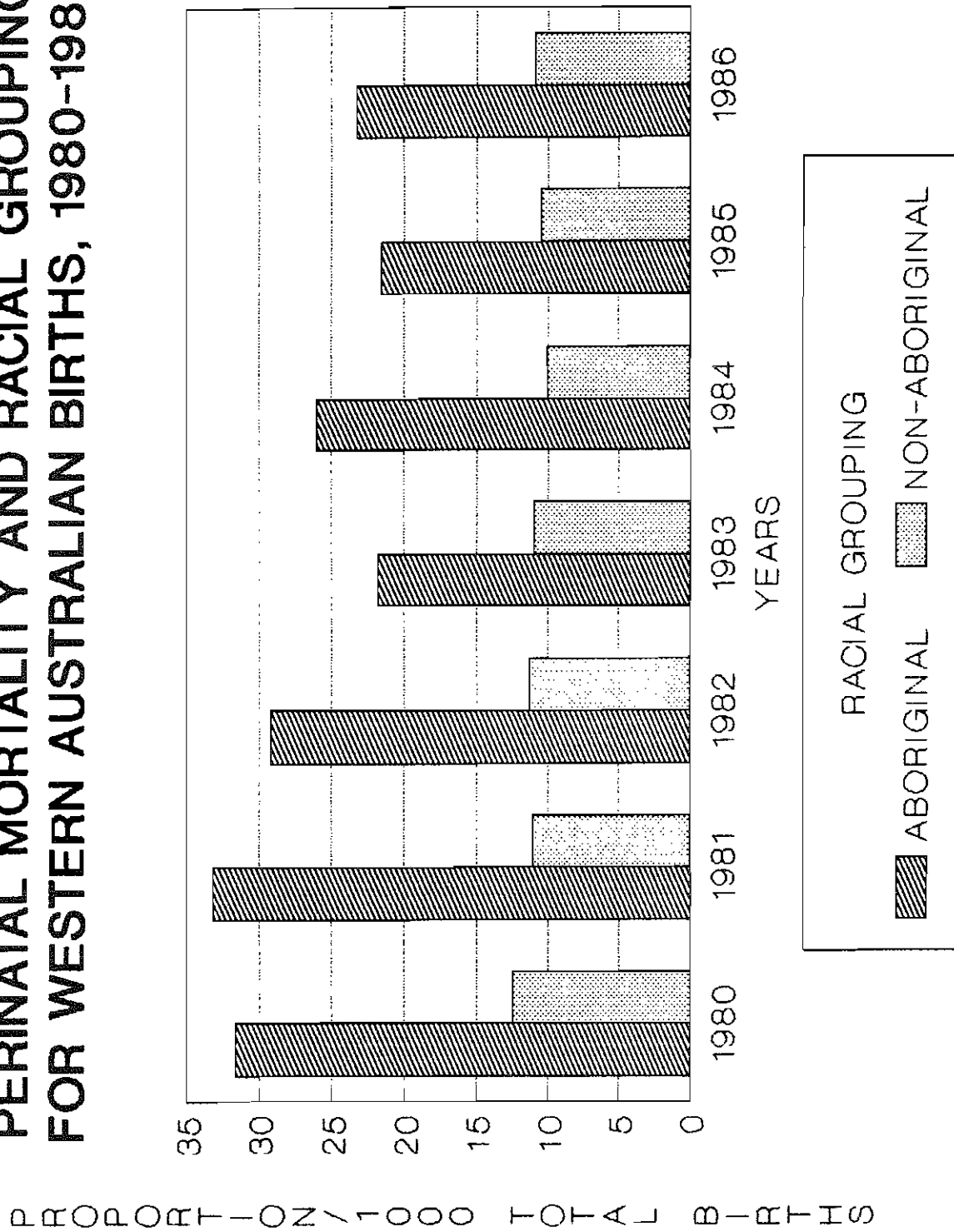


Excludes births less than 500 grams birthweight.

SOURCE : MIDWIVES' NOTIFICATION SYSTEM
REGISTRAR GENERAL'S OFFICE

FIGURE VIII

PERINATAL MORTALITY AND RACIAL GROUPING FOR WESTERN AUSTRALIAN BIRTHS, 1980-1986



Excludes births less than 500 grams birthweight.

SOURCE : MIDWIVES' NOTIFICATION SYSTEM
 REGISTRAR GENERAL'S OFFICE
 COMMUNITY AND CHILD HEALTH SERVICES

TABLE 42 : NEONATAL, POST-NEONATAL AND INFANT MORTALITY FOR ABORIGINAL AND NON-ABORIGINAL BIRTHS IN WESTERN AUSTRALIA, 1980-1986

Year	Neonatal				Post-neonatal Deaths				Infant Deaths									
	Aboriginal		Non-Aboriginal		Aboriginal		Non-Aboriginal		Aboriginal		Non-Aboriginal		Total					
	No.	Prop ⁿ	No.	Prop ⁿ	No.	Prop ⁿ	No.	Prop ⁿ	No.	Prop ⁿ	No.	Prop ⁿ	No.	Prop ⁿ				
1980	21	20.4	104	5.3	125	6.1	11	10.7	55	2.8	66	3.2	32	31.1	159	8.1	191	9.3
1981	15	13.7	103	4.9	118	5.4	6	5.5	63	3.0	69	3.1	21	19.2	166	7.9	187	8.5
1982	17	15.3	101	4.8	118	5.3	11	9.9	69	3.3	80	3.6	28	25.2	170	8.1	198	8.9
1983	11	9.7	97	4.5	108	4.7	17	15.0	59	2.7	76	3.3	28	24.7	156	7.2	184	8.0
1984	15	12.8	101	4.7	116	5.1	14	11.9	75	3.5	89	3.9	29	24.7	176	8.1	205	9.0
1985	13	10.5	96	4.4	109	4.7	19	15.4	58	2.6	77	3.3	32	25.9	154	7.0	186	8.0
1986	13	10.6	116	5.2	129	5.4	12	9.8	59	2.6	71	3.0	25	20.3	175	7.8	200	8.4

Excludes births <500 grams birthweight.

1980-1983 based on year of death.

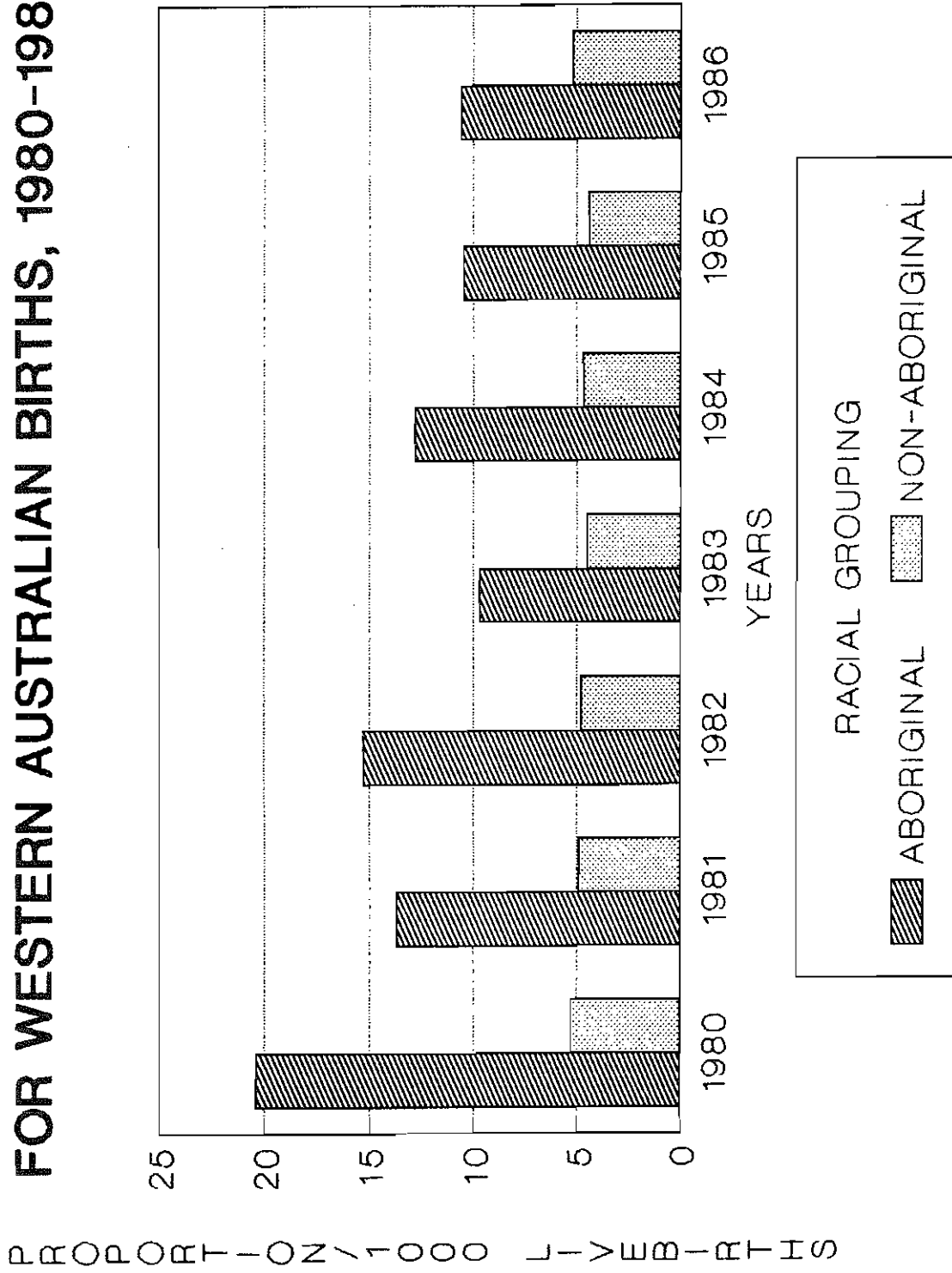
1984-1986 based on year of birth.

(1) Neonatal, Postneonatal and Infant Death Proportion/1000 livebirths.

SOURCE : MIDWIVES' NOTIFICATION SYSTEM
REGISTRAR GENERAL'S OFFICE
CHILD AND COMMUNITY HEALTH SERVICES

FIGURE IX

NEONATAL MORTALITY AND RACIAL GROUPING FOR WESTERN AUSTRALIAN BIRTHS, 1980-1986

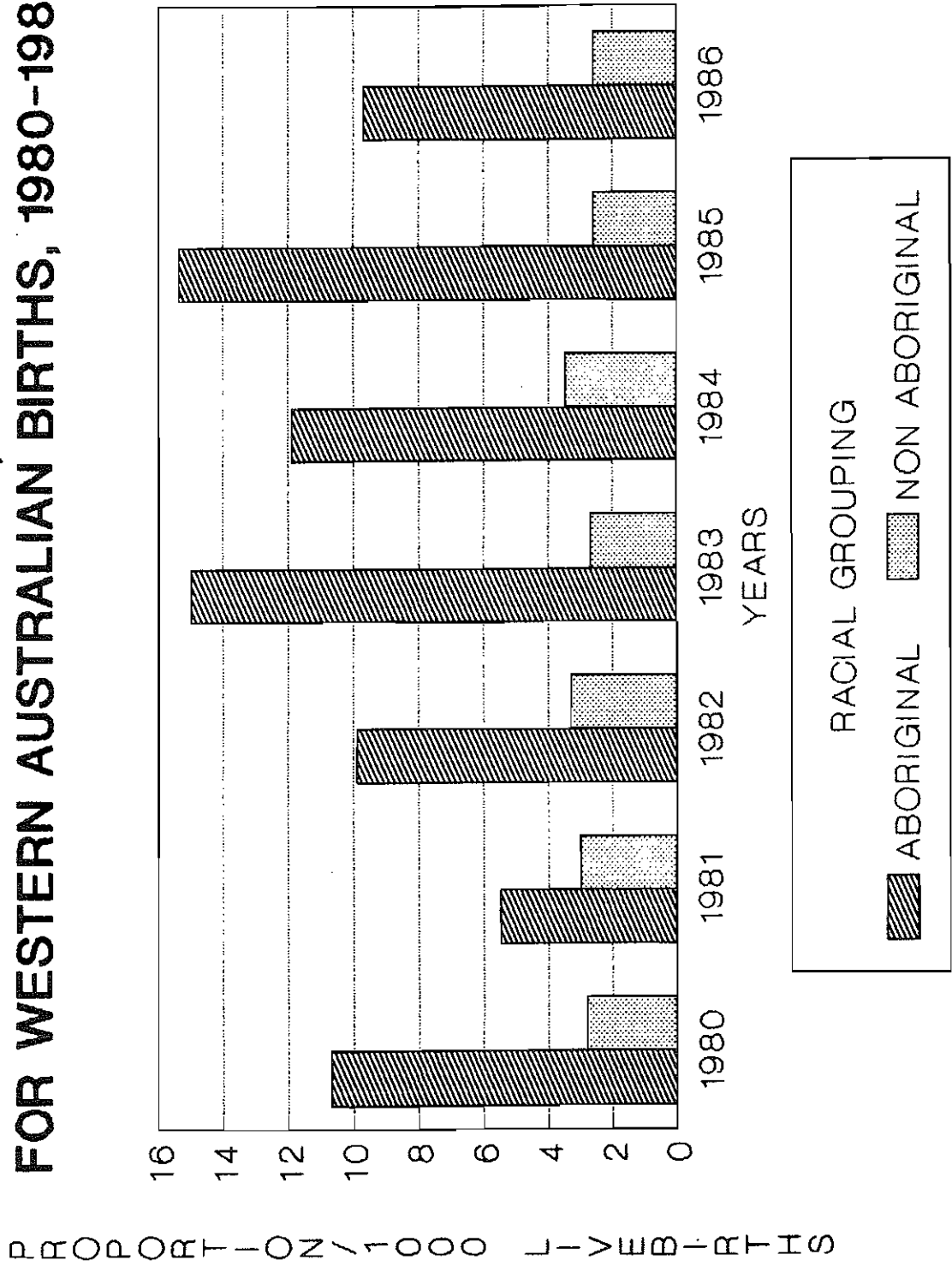


Excludes births less than 500 grams birthweight.

SOURCE : MIDWIVES' NOTIFICATION SYSTEM
 REGISTRAR GENERAL'S OFFICE
 COMMUNITY AND CHILD HEALTH SERVICES

FIGURE X

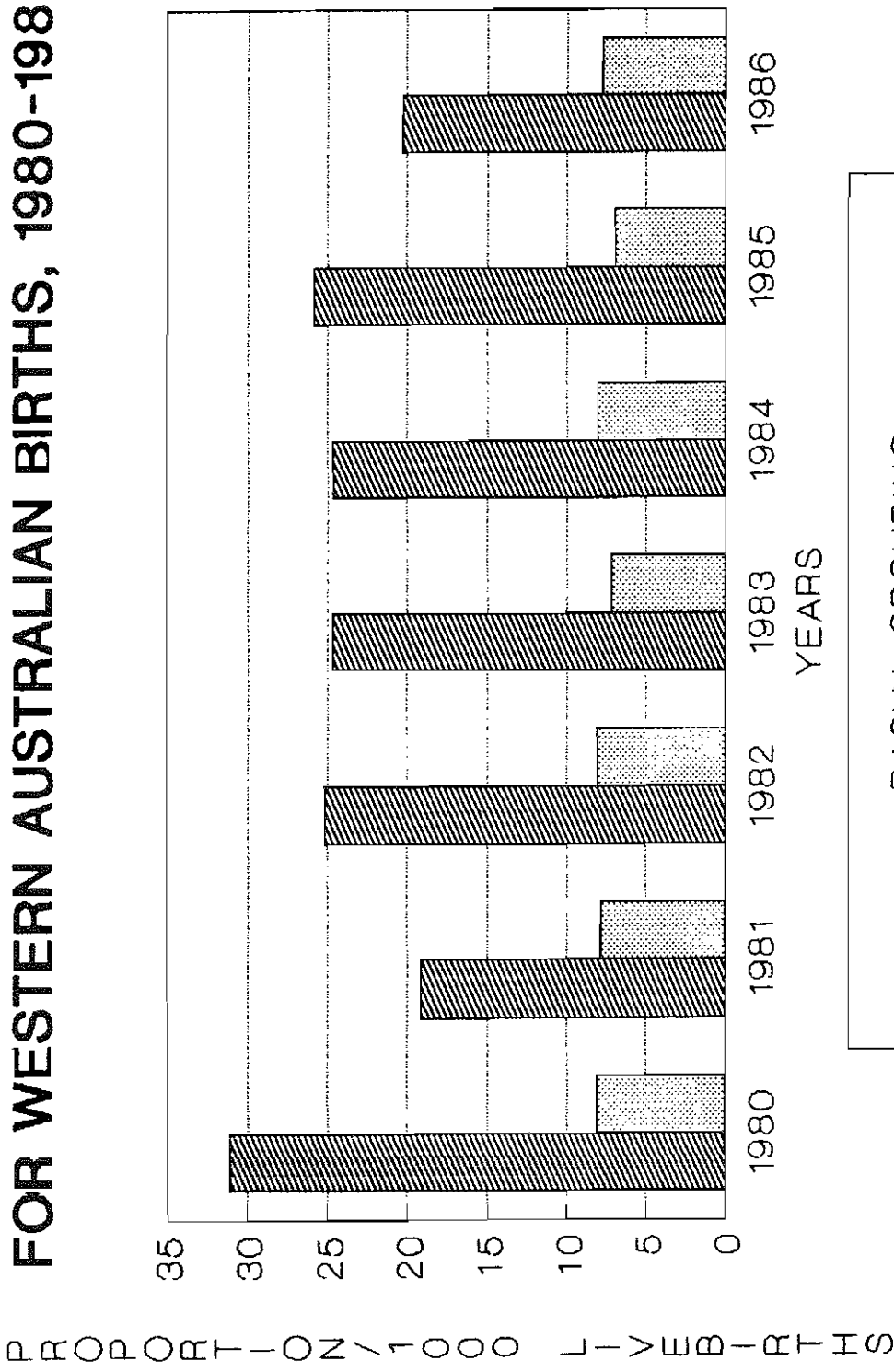
POSTNEONATAL MORTALITY, RACIAL GROUPING FOR WESTERN AUSTRALIAN BIRTHS, 1980-1986



Excludes births less than 500 grams birthweight.
 SOURCE : MIDWIVES' NOTIFICATION SYSTEM
 REGISTRAR GENERAL'S OFFICE
 COMMUNITY AND CHILD HEALTH SERVICES

FIGURE XI

INFANT MORTALITY AND RACIAL GROUPING FOR WESTERN AUSTRALIAN BIRTHS, 1980-1986



RACIAL GROUPING
ABORIGINAL NON-ABORIGINAL

Excludes births less than 500 grams birthweight.

SOURCE : MIDWIVES' NOTIFICATION SYSTEM
REGISTRAR GENERAL'S OFFICE
COMMUNITY AND CHILD HEALTH SERVICES

REFERENCES

1. Moore, D.J. Perinatal Statistics in Western Australia. Fourth Annual Report of the Midwives' Notification System for 1986. Health Department of Western Australia, Perth, 1988.
2. Hill, C. Perinatal and Infant Mortality Identified by Maternal Race. The 1985 Western Australian Birth Cohort, Health Department of Western Australia, Perth, 1987.
3. Holman, C.D.J. and Quadros, C.F. Health and Disease in the Aboriginal Population of the Kimberley Region of Western Australia 1980-1985. Health Department of Western Australia, Perth, 1986.

NOTIFICATION OF CASE ATTENDED 1 Hospital

PARTICULARS RELATING TO MOTHER

PRINT
IN
BLOCK
LETTERS

2 SURNAME				6 UNIT RECORD No.			
3 FORENAMES				7 BIRTH DATE			
4 ADDRESS OF USUAL RESIDENCE				8 POSTCODE			
5 MAIDEN NAME							

9 Current Conjugal State	
single	() 1
married (incl. de facto)	() 2
other	()
10 Race	
Caucasian	() 1
Aboriginal (full or part)	() 2
Other	() 3
11 Height (cms)	
	() () ()

PREGNANCY	
PREVIOUS PREGNANCIES (excluding this pregnancy)	
Total number of	() ()
12 Previous Pregnancies	() ()
13 Previous children now living	() ()
14 born alive, now dead	() ()
15 stillborn	() ()
THIS PREGNANCY	
16 Date of LMP	() () () () () ()
17 This date	certain () 1 not certain () 2
18 Expected due date	() () () () () ()
19 Complications of Pregnancy:	
Threatened abortion (under 20 weeks)	() A
urinary tract infection	() B
pre eclampsia	() C
APH - placenta praevia	() D
- abruptio	() E
- other	() F
prem. rupture of membranes	() G
20 other	() H
21 Medical Conditions:	
	() () () () () ()

LABOUR AND DELIVERY	
23 Onset of Labour:	
spontaneous	() A
augmented	() C
induced	() B
no labour	() D
24 Presentation:	
vertex	() 1
breech	() 2
other	() 3
25 Type of Delivery:	
normal	() A
vacuum - successful	() B
- failed	() C
forceps - successful	() D
- failed	() E
breech manoeuvre	() F
caesarean - elective	() G
- emergency	() H
Anaesthesia:	
none	() A
general	() B
epidural/spinal	() C
other	()
26 Hours of established labour:	
	() ()
27 Complications of Labour, Delivery:	
(Include reason for Caesarean)	() A
precipitate delivery	() B
foetal distress	() C
prolapsed cord	() D
cord tight around neck	() E
cephalopelvic disproportion	() F
28 other	
	() () () () () ()

BABY	
Separate Form for each Baby	
Adoption	Yes () No ()
33 Birth Date:	
	() () () () () ()
34 Time (24 hr. clock)	
	() () () () () ()
35 Plurality:	
single birth	() 1
first twin	() 2
second twin	() 3
other multiple birth:	() 4
36 (Specify baby number... of...)	
37 Sex: male	() 1
female	() 2
38 Condition: liveborn () 1 stillborn () 2	
39 Birthweight (grams)	
	() () () () () ()
40 Length (cms)	
	() () () () () ()
41 Time to Spontaneous Respiration (mins)	
	() () () () () ()
42 Resuscitation:	
none	() 0
intubation	() 3
oxygen only	() 8
other	()
43 Apgar Score (5 mins)	
	() () () () () ()
Estimated Gestation (weeks)	
	() () () () () ()
44 Congenital Anomalies	
	() () () () () ()
45 Birth Trauma (Eg. cephalhaematoma)	
	() () () () () ()

BABY'S SEPARATION DETAILS	
Date of Discharge	
29 Transfer or Death	
Neonatal Blood Screening No ()	
30 Type of Separation:	
Discharged home	() 1
Died	() 2
Transferred to	() 3
31 Special Care (whole days only)	
	() () () () () ()
32 Separate HA22 for baby.	
yes, attached	() 2

COMPLETE SECTION ON SEPARATION
Attach to Mother and Baby's Inpatient Summaries (HA22) Forward to Health Statistics P.O. Box 8172 Stirling Street, PERTH 6001 after discharge of Mother and/or baby whichever is later

MIDWIFE	
Name	() () () () () ()
Signature	() () () () () ()
22 Reg No	() () () () () ()
Date	() () () () () ()

MEDICAL CERTIFICATE OF CAUSE OF PERINATAL DEATH

To be completed in respect of—
(i) a child not born alive, of at least 20 weeks gestation or 400 grammes weight
(ii) a live born child dying within twenty-eight days after birth

Note: Please in relevant boxes thus

PARTICULARS RELATING TO MOTHER

1. Full Name 2. Age years

3. Address of usual residence

4. Parity

PARTICULARS RELATING TO CHILD ABORIGINAL: YES NO

5. Name, if given

6. Sex: Male Female

7. Place of death

8. Time and date of birth a.m. p.m. 19.....

9. This birth was: Single Twin Triplet

10. Weight at birth grammes

11. Period of gestation..... completed weeks from first day of last menstrual period to date of delivery

12. HEART BEAT CEASED:

- (a) Before labour commenced
- (b) During labour but before delivery
- (c) Before delivery but not known whether before or during labour
- (d) After delivery
- (e) Not known whether before or after delivery

If heart beat ceased before labour commenced, please estimate how long before--
..... hours or days

If heart beat ceased after delivery, please state time—
..... a.m. and date

13. BREATHING:

Did the child breathe after complete expulsion or extraction from the mother?

Yes No

CAUSE OF DEATH

14. Post mortem: carried out ; to be carried out Yes No

Is cause of death shown below based on post mortem Yes No

PART I

A. CAUSES IN CHILD OR FOETUS

Disease or condition directly leading to death.....

due to ↑

due to ↑

B. MATERNAL OR OTHER CONDITIONS OR CAUSES GIVING RISE TO THE UNDERLYING CAUSE ABOVE

due to.....

* Morbid conditions, if any, giving rise to the above cause, stating the underlying condition last.

PART II

OTHER SIGNIFICANT CONDITIONS in child, foetus or mother contributing to the death, but not related to the disease or condition causing it

I hereby certify that the particulars shown above are true to the best of my knowledge.

Signature Date

Name Address

(Block Letters)

Registration Number	
3	<input type="checkbox"/>
2	<input type="checkbox"/>
8	<input type="checkbox"/>
6	<input type="checkbox"/>
9	<input type="checkbox"/>
10	<input type="checkbox"/>
11	<input type="checkbox"/>
12	<input type="checkbox"/>
14	<input type="checkbox"/>
4	<input type="checkbox"/>
7	<input type="checkbox"/>

Approximate Interval Between Onset and Death

P.G. 356

WESTERN AUSTRALIA
REGISTRATION OF BIRTHS, DEATHS, AND MARRIAGES ACT, 1961

Registrar to enter
No. of death entry.

MEDICAL CERTIFICATE OF CAUSE OF DEATH

(For use only by a legally qualified medical practitioner who has been in attendance during deceased's last illness.
If Deceased less than 29 days old use Form R.G. 364)

Aboriginal: Yes No

Name of Deceased.....

Sex..... Date of Death..... 19.....

Age as stated to me..... Date last seen alive by me..... 19.....

Place of Death.....

*Post Mortem Carried Out ; To be Carried Out ; Not to be Carried Out

Approximate Interval
between onset and
death

CAUSE OF DEATH
(IN BLOCK LETTERS)

DIRECT CAUSE—
Disease or condition directly leading to death† ... (a)..... due to—

ANTECEDENT CAUSES—
Morbidity conditions, if any, giving rise to the above cause stating the underlying condition last (b)..... due to—
..... (c).....

II. OTHER SIGNIFICANT CONDITIONS CONTRIBUTING TO DEATH BUT NOT RELATED TO THE DISEASE OR CONDITION CAUSING IT

† See Fly Leaf—This means the disease, injury or complication which caused death—NOT the mode of dying, as e.g., heart failure, asthenia, etc.

If operation performed on Deceased within 3 months of Death specify condition for which performed..... and Date of Operation.....

If this case has been reported to the Coroner, enter "Yes" here

I hereby certify that I was in medical attendance during the abovenamed Deceased's last illness and that the particulars and cause of death above written are true to the best of my knowledge and belief.

Name..... (block letters)

Signature

Address.....

Professional Title

Date.....

NOTE.—SECTION 41 of the abovementioned Act provides that in case of the death of any person who has been attended in his last illness by a duly qualified medical practitioner, such practitioner shall forthwith after the death complete and sign a certificate of the cause of death in the form approved by the Registrar General and give it to the person required by the Act to furnish information concerning such death.

* Please tick appropriate box.

29737/11/83—2M BKS—MAG 140